



6/4D/216
21/9/87

NATIONAL STANDARDS COMMISSION

NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/4D/216

This is to certify that an approval for use for trade has been granted in respect of the pattern and variants of the

Teraoka SM-40 Series Weighing Instrument

submitted by J W Wedderburn & Sons Pty Ltd
90 Parramatta Road
Summer Hill NSW 2130.

CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/2/88.
This approval expires in respect of new instruments on 1/2/89.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/216.

This approval may be withdrawn if instruments are constructed other than in accordance with the drawings and specifications lodged with the Commission.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificates Nos S1/0 and/or S2/0, as appropriate.

Signed

Acting Executive Director

Descriptive Advice

Pattern: approved 12/1/83

- Teraoka SM-40 series price-computing weighing instrument of 15 kg capacity with a verification scale interval of 0.005 kg.

Variants: approved 12/1/83

1. Various models with different information printed on the label and different PLU capability.
2. Pattern or variant 1 with vendors' indicator, purchasers' indicator, keyboard, or any combination of these, separate to the weighing unit.
3. With an output socket for the connection of an auxiliary and/or a peripheral device.

Technical Schedule No 6/4D/216 describes the pattern and variants 1 to 3.

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Variant: approved 7/10/83

4. With the facility for simultaneous use by up to four operators and then known as a model SM-50.

Technical Schedule No 6/4D/216 Variation No 1 describes variant 4.

Variant: approved 10/8/84

5. Of 6 kg capacity with a verification scale interval of 0.002 kg.

Technical Schedule No 6/4D/216 Variation No 2 describes variant 5.

Variant: approved 21/6/85

6. With the weighing unit in an alternative housing.

Technical Schedule No 6/4D/216 Variation No 3 describes variant 6.

Variant: approved 3/8/87

7. A number of SM-40 and/or SM-50 instruments connected in a network.

Technical Schedule No 6/4D/216 Variation No 4 describes variant 7.

Filing Advice

Certificate of Approval No 6/4D/216 dated 5/12/85 is superseded by this Certificate and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 6/4D/216 dated 21/9/87
Technical Schedule No 6/4D/216 dated 7/2/83
Technical Schedule No 6/4D/216 Variation No 1 dated 28/10/83
Technical Schedule No 6/4D/216 Variation No 2 dated 2/10/84
Technical Schedule No 6/4D/216 Variation No 3 dated 5/12/85
Technical Schedule No 6/4D/216 Variation No 4 dated 21/9/87
Test Procedure No 6/4D/216 dated 7/2/83 (including Table 1)
Figures 1 and 2 dated 7/2/83
(Note: This previously read "Figures 1 to 3 dated 7/2/83")
Figure 3 dated 5/12/85



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/216

Pattern: Teraoka SM-40 Series Price-computing Weighing Instrument

Submitter: J. W. Wedderburn & Sons Pty Ltd
90 Parramatta Road
Summer Hill, NSW, 2130.

1. Description of Pattern

A self-indicating price-computing weighing instrument with PLU facility and an inbuilt label printer (Figure 1).

| | |
|------------------|------------------------------|
| Maximum capacity | 15 kg |
| Scale interval | 0.005 kg |
| Unit price | \$999.99 kg in 1c increments |
| Price | \$9999.99 in 1c increments |

1.1 Zero

Zero to within 0.25e, indicated by the ZERO light illuminating, may be obtained either by using the ZERO push-button or automatically, whenever the instrument comes to rest within 0.5e of zero.

1.2 Tare

Use of the semi-automatic tare push-button marked T allows a mass to be tared to within 0.25e indicated by the ZERO light illuminating. On removal of the tared mass the display will blank.

This tare is subtractive and has a capacity of up to 0.745 kg.

1.3 Display Check

- On applying power the indicator displays all 1's, all 2's to all 9's, blanks, and then displays ZERO.
- In addition, a push-button marked RE-ZEROING (located adjacent to the power switch) initiates a segment check by displaying all 8's before zeroing.

1.4 Marking

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

| | |
|-----------------------------|-------------------|
| Manufacturer's name or mark | |
| Serial number | |
| NSC approval number | NSC No 6/4D/216 |
| Accuracy class | <u>III</u> |
| Maximum capacity | Max = 15 kg* |
| Minimum capacity | Min = 0.1 kg* |
| Verification scale interval | e = d = 0.005 kg* |
| Maximum subtractive tare | T = -0.745 kg |

* These markings to be repeated in the vicinity of each reading face, if not already located there.

1.5 Sealing

Access to the calibration adjustments is prevented by a clear plastic cover strip, the mounting screws of which are sealed by a destructible seal, visible through a window in the housing (Figure 2).

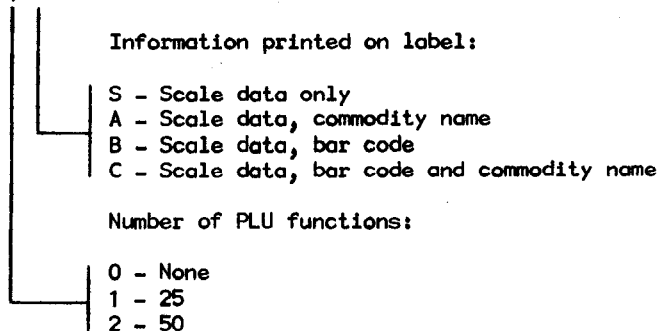
2. Description of Variants

2.1 Variant 1

Various models with different information printed on the label and different PLU capability, as described by the following model numbering system:

Note: Instruments may still be marked SM-40.

SM - 4 1 C



2.2 Variant 2

The pattern or variant 1 with vendors' indicator, purchasers' indicator, keyboard, or any combination of these, separate to the weighing unit.

2.3 Variant 3

The pattern or variants with an output socket for the connection of peripheral equipment.

TEST PROCEDURE No 6/4D/216

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:

- $\pm 0.5e$ for loads between 0 and 500e;
- $\pm 1e$ for loads between 501e and 2000e; and
- $\pm 1.5e$ for loads above 2000e.

1. Zero Range

The range of the zero adjustment should be not more than 4% of the maximum capacity ($\pm 2\%$ 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; it should not be possible to obtain zero by means of the ZERO button.
- (b) Reduce the load to, say, 1.5%; it should then be possible to obtain zero by means of the ZERO button.

2. Zero Test

- (a) Check by means of Document 104 that when the ZERO light illuminates, zero is set within 0.25e.
- (b) As the automatic zero tracking 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 indicator should be blank.

4. Taring

- (a) The 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).
- (b) Attempt to tare a mass above maximum tare capacity. On removal of the mass no tare should have been entered and the indicator should display all zeroes.

5. Test Loads

- (a) 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.

6. Price-computing Accuracy

The indications of mass, unit price and price listed in Table 1 will indicate that the price-computing and mass circuits are functioning correctly. The figures should be indicated exactly as in the table, as rounding is effected within the computer.

Note: This test does not establish correct mass indication; a separate load test in accordance with Document 104 is necessary. This may be carried out in conjunction with the above test.

TABLE 1

| Indicated Mass kg | Unit Price \$/kg | Price \$ |
|----------------------|---------------------|-------------|
| 0.000 | 0.00 | 0.00 |
| 0.150 | 799.33 | 119.90 |
| 10.000 | 99.99 | 999.90 |
| 11.965 | 835.77 | 9999.99 |

Price-computing Table



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/40/216

VARIATION No 1

Pattern: Teraoka SM-40 Series Price-computing Weighing Instrument

Submitter: J W Wedderburn & Sons Pty Ltd
90 Parramatta Road
Summer Hill, New South Wales, 2130.

1. Description of Variant 4

Model SM-50 which is similar to the pattern but has an integral ticket printer rather than a label printer and additionally has the facility to be used simultaneously by up to four operators. After each individual transaction the operator stores the details in one of up to four memories. On completion of the total transaction, the details of each individual transaction are recalled and automatically itemised on a ticket for the purchaser.

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2/10/84



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TECHNICAL SCHEDULE No 6/40/216

VARIATION No 2

Pattern: Teraoka SM-40 Series Price-computing Weighing Instrument

Submittor: J W Wedderburn & Sons Pty Ltd
90 Parramatta Road
Summer Hill, New South Wales, 2130.

1. Description of Variant 5

Of 6 kg maximum capacity with 0.002 kg scale intervals, and with semi-automatic tare of up to 0.298 kg capacity.

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5/12/85



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/216

VARIATION No 3

Pattern: Teraoka SM-40 Series Weighing Instrument

Submitter: J W Wedderburn & Sons Pty Ltd
90 Parramatta Road
Summer Hill NSW 2130

1. Description of Variant 6

With the weighing unit (load cell and mounting) removed from the SM-40 instrument and placed in an alternative housing (Figure 3) which is fitted with a level indicator; the level indicator on the original instrument (now acting only as a computing/indicating unit) is now redundant and may be removed.

1.1 Markings

The basework must be marked with the approval number (NSC No 6/4D/216) and in addition, a notice adjacent to the level indicator stating that the instrument must be level when in use.

The SM-40 computing/indicating unit must be marked with the serial number of the basework.



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TECHNICAL SCHEDULE No 6/4D/216

VARIATION No 4

Pattern: Teraoka SM-40 Series Weighing Instrument

Submitter: J W Wedderburn & Sons Pty Ltd
90 Parramatta Road
Summer Hill NSW 2130

1. Description of Variant 7

A number of model SM-40 and/or SM-50 (Variant 4) instruments may be connected in a network with model SM-60, SM-60A, or SM-60B instruments (as described in the documentation of NSC approval No 6/4D/236), to share common PLU data, to transfer transaction data between instruments, and to retrieve management information.

Each individual instrument within the network has the facility for the transaction data to be entered into one of a number of operator memories, with a totalised ticket being produced at the end of a number of transactions.

In such a system it is essential that the purchaser be provided with a ticket, or tickets, indicating each item in the transaction and the total price for the transaction.

The linking of these instruments in a network allows such transaction data to be transferred between instruments.

The network must include at least one of the following as the network controller - SM-60, SM-60A, SM-60B, CB-10 (the CB-10 is a "control box" - it is not a weighing instrument). In addition, the network may be interfaced with a computer for the collection of management data, or the downloading of PLU programming data.

Note: The weighing and price-computing functions of each weighing instrument in the network are independent, and the removal, repair or replacement of a particular weighing instrument does not necessitate reverification of any other weighing instrument in the network.

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NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/4D/216

CHANGE No 1

The following change is made to the approval documentation for the

Teraoka SM-40 Series Weighing Instrument

submitted by J W Wedderburn & Sons Pty Ltd
90 Parramatta Road
Summer Hill NSW 2130.

In Technical Schedule No 6/4D/216 Variation No 3 dated 5/12/85, Figure 3 was omitted during printing. This Figure is attached herein.

Signed

Acting Executive Director



NATIONAL STANDARDS COMMISSION

6/4D/216
10/10/86

JB.

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/4D/216

CHANGE No 2

The following changes are made to the approval documentation for the
Teroaka SM-40 Series Weighing Instrument

submitted by J W Wedderburn & Sons Pty Ltd
90 Parramatta Road
Summer Hill NSW 2130.

1) In Technical Schedule No 6/4D/216 dated 7/2/83;

(a) Amend clause 1.2 Tare by altering the second sentence to read:

"On removal of the tared mass the display will blank or show a mass preceded by a minus sign (in which case the instrument shall be marked NOT FOR RETAIL COUNTER USE or similar)."

(b) Amend clause 1.4 Marking by adding the following footnote:

"In addition, where applicable, instruments shall be marked NOT FOR RETAIL COUNTER USE or similar."

2) In Test Procedure No 6/4D/216 dated 7/2/83, amend clause 3. Range of Indication by altering paragraph (b) to read:

"Below zero the indicator should blank or show a mass preceded by a minus sign."

Signed

Acting Executive Director

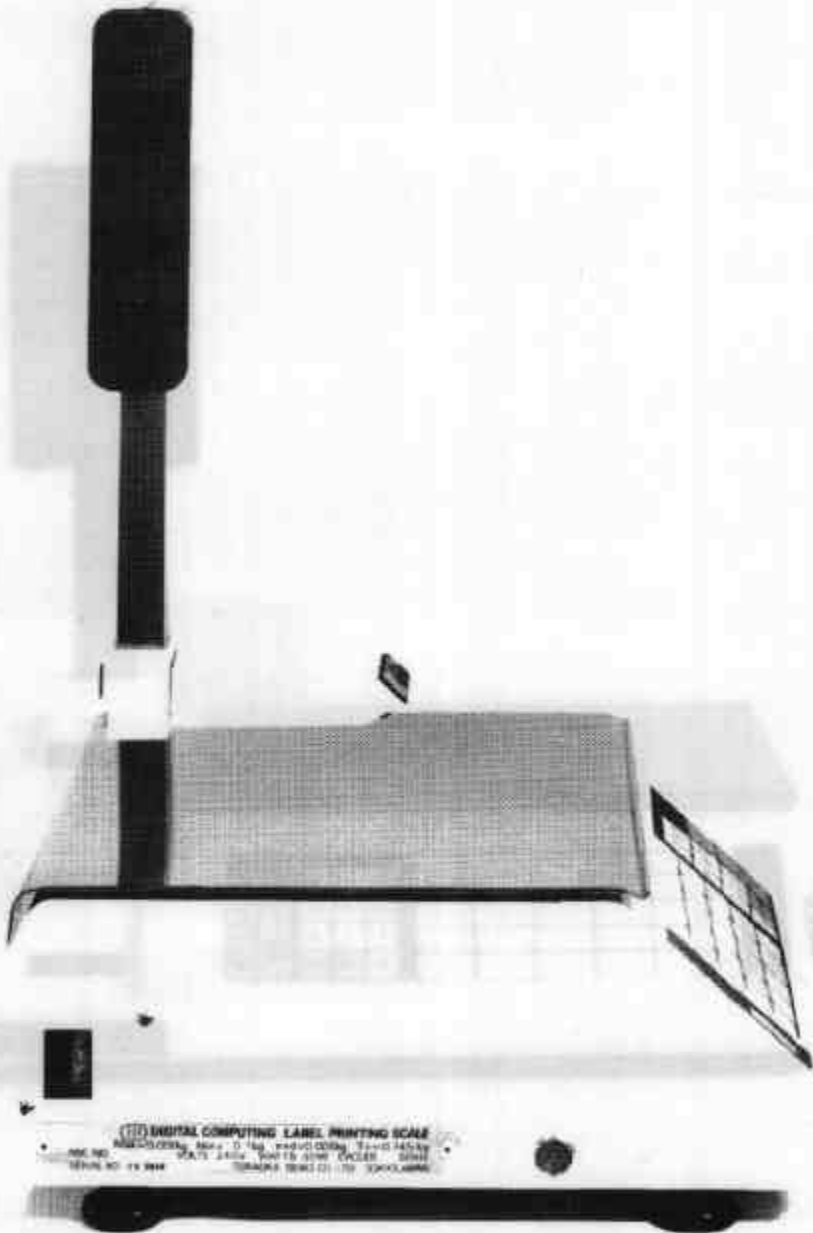
FIGURE 6/40/216 - 1



Terooka SM-40 Series

7/2/83

FIGURE 6/40/216 - 2



Sealing Of Terooko SM-40 Series

7/2/83

20/10/1

FIGURE 6/40/216 - 3



Weighing Unit In An Alternative Housing