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# NATIONAL STANDARDS COMMISSION

WEIGHTS AND MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/4C/33

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

Ishida Model LC-2500A Weighing Instrument

submitted by Sumitomo Australia Limited,
8-18 Bent Street,
Sydney, New South Wales, 2000,

is suitable for use for trade.

The approval of the pattern is subject to review on or after 1/5/87.

All instruments purporting to comply with this approval shall be marked NSC No 6/4C/33.

Relevant drawings and specifications are lodged with the Commission.

Signed
Raymond Ward
Acting Executive Director

## Descriptive Advice

Pattern: approved 29/3/82

- Ishida model LC-2500A self-indicating weighing instrument of capacity 25 kg with 0.01 kg scale intervals.

Technical Schedule No 6/4C/33 dated 3/5/82 describes the pattern.

Variant: approved 10/9/82

1. With a capacity of 12 kg with 0.005 kg scale intervals and known as Ishida model LC-1200A.

Technical Schedule No 6/4C/33 Variation No 1 dated 21/9/82 describes variant 1.

## Filing Advice

The documentation for this approval now consists of:

Certificate of Approval No 6/4C/33 dated 21/9/82
Technical Schedule No 6/4C/33 dated 3/5/82
Technical Schedule No 6/4C/33 Variation No 1 dated 21/9/82
Test Procedure No 6/4C/33 dated 3/5/82
Test Procedure No 6/4C/33 Variation No 1 dated 21/9/82
Figures 1 to 4 dated 3/5/82.

21/9/82

# NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4C/33

Pattern: Ishida Model LC-2500A Self-indicating Weighing Instrument of Maximum Capacity 25 kg with 0.01 kg Scale Intervals.

Submittor: Sumitomo Australia Limited,
8-18 Bent Street,
Sydney, New South Wales, 2000.

## 1. Description of Pattern

Ishida model LC-2500A self-indicating weighing instrument of capacity 25 kg by 0.01 scale intervals.

The instrument (Figures 1 and 2) is approved for up to 2500 scale intervals.

### 1.1 Markings

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

| | |
|---|---|
| Manufacturer's name or mark | |
| Serial number | |
| NSC approval number | NSC No 6/4C/33 |
| Accuracy class | (III) |
| Maximum capacity in the form: | Max = 25 kg* |
| Minimum capacity in the form: | Min = 0.2 kg* |
| Scale interval in the form: | d (or $d_d$) = e = 0.01 kg* |
| Maximum subtractive tare | T = - 9.99 kg |

### 1.2 Zero

Zero to within 0.25e, indicated by the ZERO light being illuminated, is obtained **either,**

(a) Semi-automatically, using the ZERO button,

**or**

(b) Automatically, whenever the instrument comes to rest within 0.5e of zero.

### 1.3 Tare

Use of the semi-automatic subtractive TARE button allows a mass on the load receptor of up to 9.99 kg to be tared to within 0.25e.

### 1.4 Display Check

Pressing the red button adjacent to the level indicator (Figure 3), causes all 8's to be displayed on the mass indicator.

### 1.5 Levelling

There are four adjustable feet. Adjacent to the level indicator is a notice advising that the instrument must be level when in use (Figure 3).

### 1.6 Sealing

Access is prevented by a stamping plug and a bracket, as shown in Figure 4.

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* These markings are repeated in the vicinity of all reading faces, if not already there.

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

Check that the range of the zero adjustment is not more than 4% of the maximum capacity (± 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 press the ZERO button; the instrument should not rezero; and

(b) reduce the load to say 1.5%, and again press the ZERO button; t' instrument should indicate zero balance.

2. Zero Test

(a) Check using Document 104, that when the ZERO light is illuminated, zero is set to 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 mass the indicator should be blank and the OVERLOAD light illuminated.

(b) Below zero the indicator should blank.

4. Taring

Attempt to tare a mass above maximum capacity of tare. On removal of the mass ' tare should have been entered, and the indicator should display all zeroes.

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. Level Sensitivity

As the automatic zero device may prevent the zero from changing when the instrument is tilted at zero load, the effect of tilt should be initially checked with a small load on the instrument, say, 10e.

When the instrument is tilted so that the bubble in the level indicator moves 2 mm, the indication (10e) should not change by more than 2e, and when, in the tilted position, the 10e load is removed and zero is allowed to automatically reset or it is manually reset, the instrument should satisfy the accuracy requirements given above.

# NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4C/33

VARIATION No 1

Pattern: Ishida Model LC-2500A Weighing Instrument

Submittor: Sumitomo Australia Limited,
8-18 Bent Street,
Sydney, New South Wales, 2000.

## 1. Description of Variant

### 1.1 Variant 1

The pattern with a capacity of 12 kg with 0.005 kg scale intervals known as Ishida model LC-1200A. This self-indicating weighing instrument is approved for up to 2400 scale intervals.

### 1.2 Tare

Use of the semi-automatic additive TARE button allows a mass on the load receptor of up to 0.5 kg to be tared within 0.25e.

### 1.3 Markings

As for the pattern but with the appropriate changes for capacity and with tare marked as below.

Maximum additive tare T = + 0.5 kg

## TEST PROCEDURE No 6/4C/33

## VARIATION No 1

As per Test Procedure 6/4C/33 dated 3/5/82 with Test 4. Taring amended by the following Tare Test.

**Tare**

(i) Attempt to tare a mass above the marked maximum tare capacity; this should not be possible. On removal of the mass no tare should have been entered, and the indicator should display all zeroes.

(ii) Tare a mass equal to the marked maximum tare capacity then complete a load test as per Test 5 of Test Procedure No 6/4C/33 dated 3/5/82. The loads should be displayed within the tolerances specified in that Test Procedure.

21/9/82

3/5/82

FIGURE 6/4C/33 - 1


Model LC-2500A - Vendor's Side

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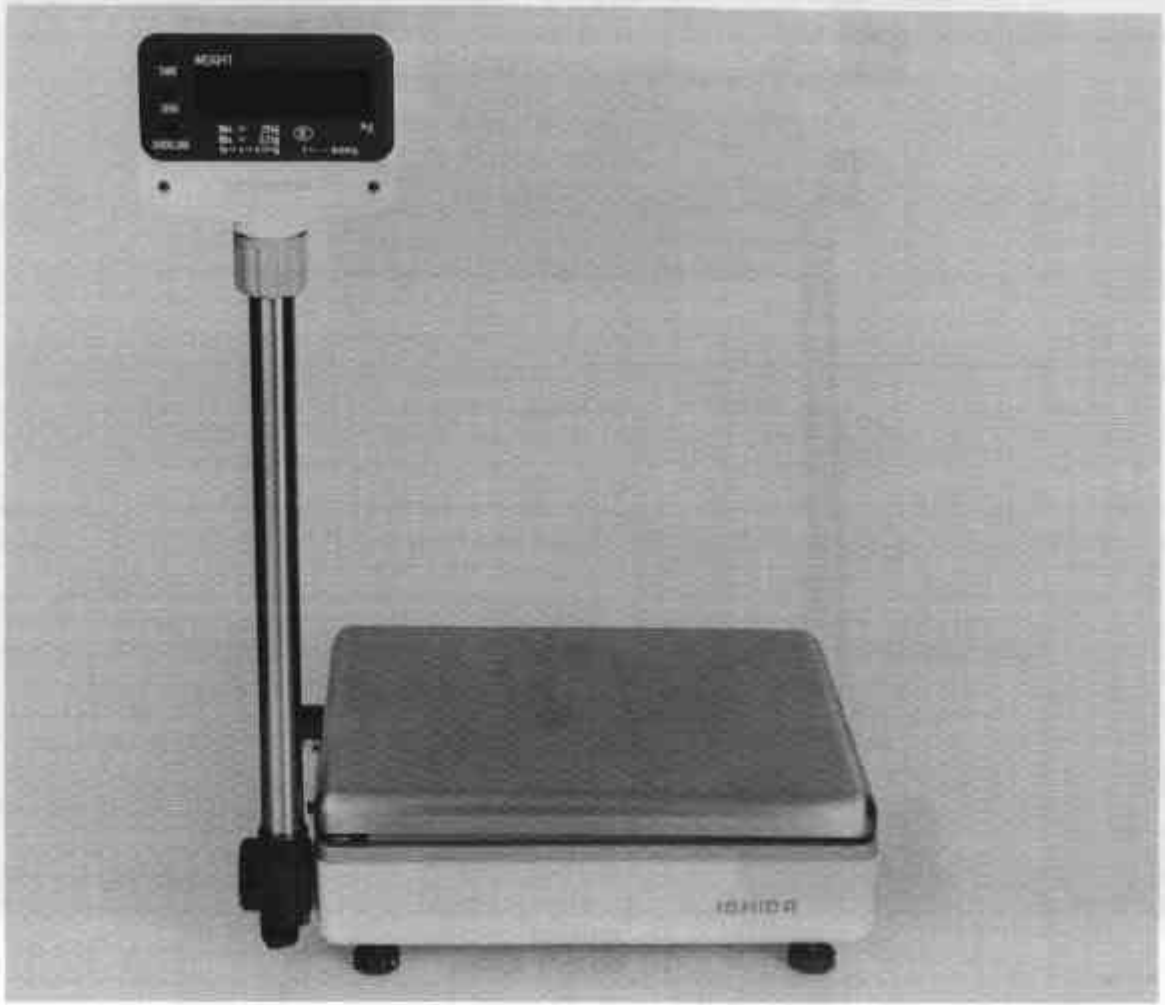
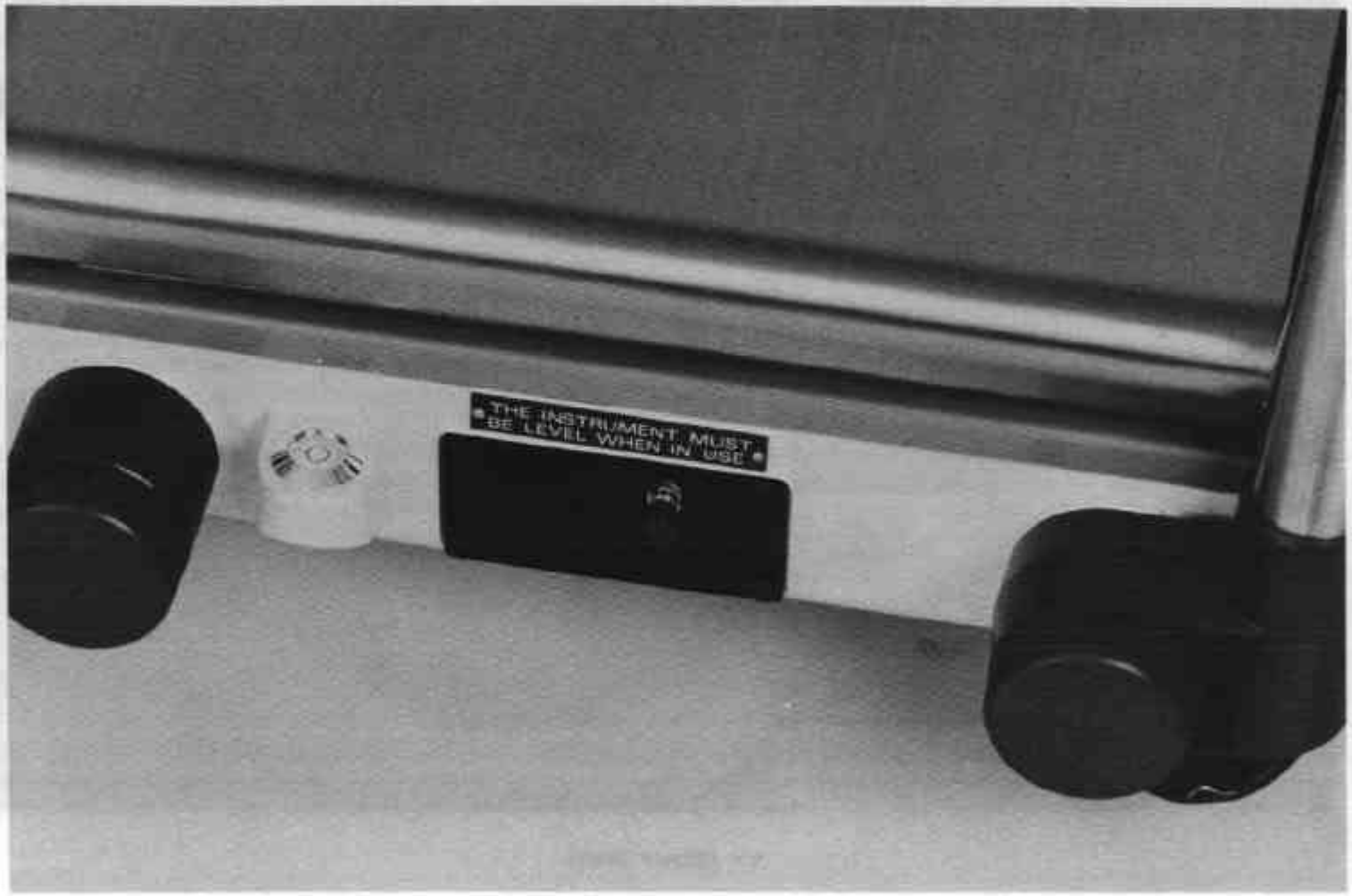
FIGURE 6/4C/33 - 2



Model LC-2500A - Customer's Side

3/5/82

FIGURE 6/4C/33 - 3




Showing Display Check Button

FIGURE 6/4C/33 - 4

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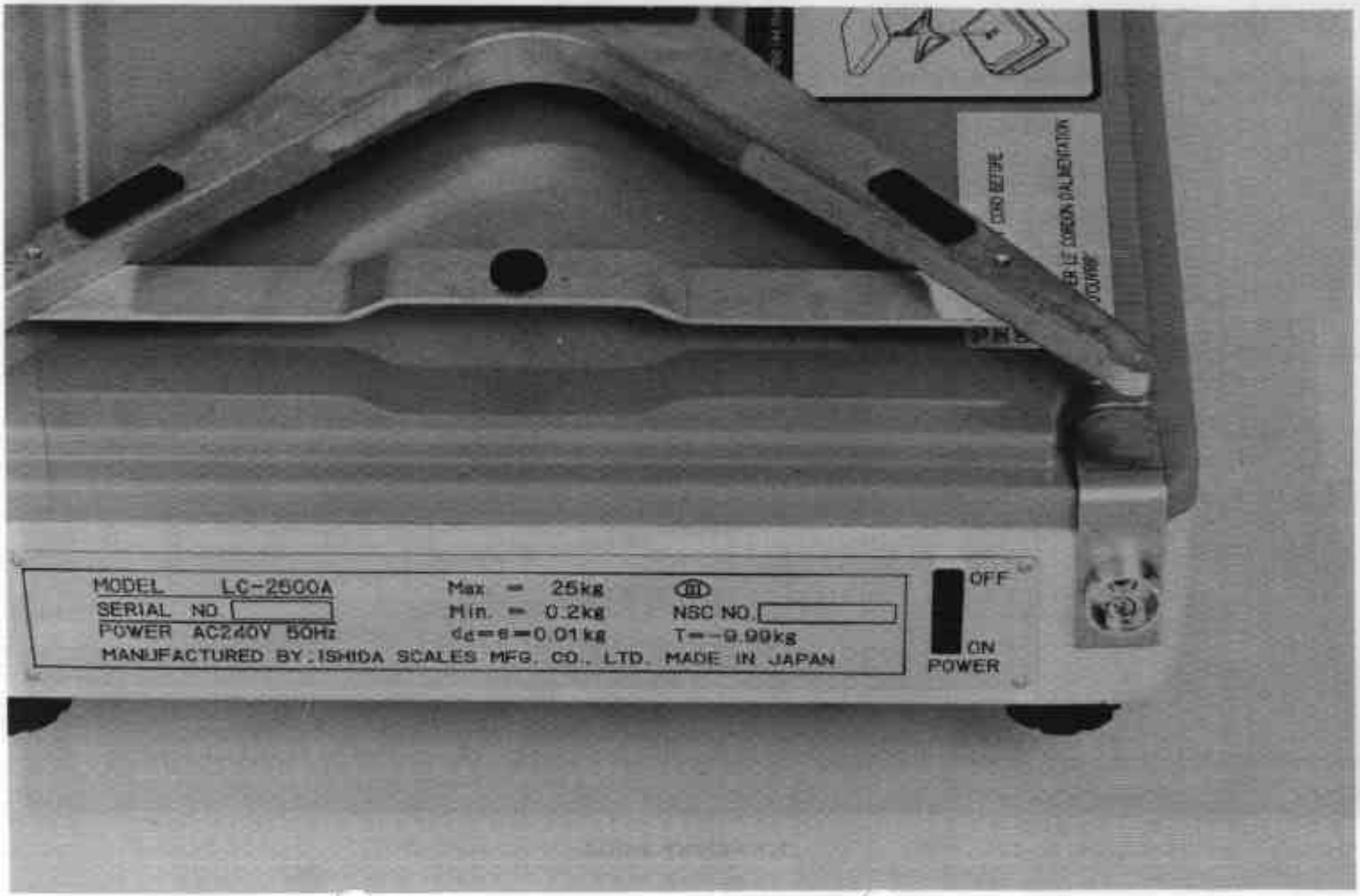


Showing Sealing And Stamping Plug