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NATIONAL STANDARDS COMMISSION

WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/4D/98

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

Kubota Model LA-155 Weighing Instrument

submitted by Ads-Anker Data Systems Pty Ltd
212 Elizabeth Street
Sydney, New South Wales, 2010

are suitable for use for trade.

The approval is subject to review on or after 30/4/85.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/98.

Relevant drawings and specifications are lodged with the Commission.

Signed

Executive Director

Descriptive Advice

Pattern: approved 28/5/80

. A self-indicating price-computing weighing instrument of 15 kg capacity by 0.005 kg scale intervals, with unit price to $99.99/kg and price to $999.99.

Variant: approved 28/5/80

1. With indicators on a rotating headwork, and known as model LB-155.

Technical Schedule No 6/4D/98 dated 6/6/80 describes the pattern and variant 1.

Variant: approved 24/2/81

2. Without non-operative keys.

Technical Schedule No 6/4D/98 Variation No 1 dated 13/3/81 describes variant 2.

Variant: approved 26/5/83

3. With an output socket for the connection of auxiliary or peripheral equipment.

Technical Schedule No 6/4D/98 Variation No 2 dated 17/6/83 describes variant 3.

Filing Advice

Certificate of Approval No 6/4D/98 dated 13/3/81 is superseded by this Certificate, and may be destroyed.

The documentation for this approval now comprises:

Certificate of Approval No 6/4D/98 dated 17/6/83
Technical Schedule No 6/4D/98 dated 6/6/80 (including Test Procedures and Table 1)
Technical Schedule No 6/4D/98 Variation No 1 dated 13/3/81
Technical Schedule No 6/4D/98 Variation No 2 dated 17/6/83
Figures 1 to 6 dated 6/6/80
Figure 7 dated 13/3/81.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/98

Pattern: Kubota Weighing Instrument Model LA-155

Submittor: Ads-Anker Data Systems Pty Ltd,
212 Elizabeth Street,
Sydney, New South Wales, 2000.

Description of Pattern:

The pattern is a self-indicating price computing weighing instrument of capacity 15 kg by 0,005 kg scale intervals with unit price in 1c increments to $99,99 per kilogram and price in 1c increments to $999,99. Mass, unit price, and total price are digitally indicated on both the vendor's and purchaser's sides of the instrument (Figures 1 and 2). Unit price is entered by pressing the buttons marked 0 to 9 and is cleared by pushing the button marked CL. The unit price display remains blank until a unit price is entered; price display remains blank until a unit price and mass are entered.

The load receptor is directly connected to the load cell (Figure 3).

The output voltage from the load cell, which is proportional to the load applied, is digitally encoded to continuously indicate mass and is multiplied by the unit price entered by the push-buttons to continuously indicate price.

Zero: the instrument will rezero automatically whenever it comes to rest within 0,5e of zero; this is indicated by a zero light being illuminated when zero is within 0,25e.

A push button marked ZERO is provided for rezeroing the instrument when zero has changed by one scale interval or more. Switching power off and on will also rezero the instrument.

Segment Test: when power is switched on, all the indicators indicate 8's, then blank, approximately fifteen times; the instrument then zeroes.

Levelling: the instrument is provided with a level indicator and four adjustable feet. Adjacent to the level indicator is a notice advising that the instrument must be level when in use.

Markings: The instrument is marked with the following data:

Manufacturer's name	
Serial number of instrument	
NSC approval number in the form:	6/4D/98
Accuracy class in the form:	(III)
Maximum capacity in the form:	Max .....*
Minimum capacity in the form:	Min .....*
Verification scale interval in the form:	d_d = e = ...*

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

Sealing: the instrument is sealed by a sealing wire passing through the heads of two retaining screws under the load receptor (Figure 4), and a stamping plug on the other side of the instrument (Figure 5).

Variant:

1. Model LB-155, with vendor's and purchaser's indicators on a rotating headwork which is raised at least 200 mm above the load receptor (Figure 6).

Test Procedures:

1. Accuracy Requirements:

   The maximum permissible errors are:

   ± 0,5e for loads between zero and 500e inclusive;
   ± 1e for loads between 501e and 2000e inclusive; and
   ± 1,5e for loads above 2000e.

2. Zero test - As the automatic device resets zero when the weighing mechanism is in equilibrium within 0,5 scale interval of zero, zero should be checked as described in the Commission's Test Procedure for the Elimination of Rounding Error for Weighing Instruments with Digital Indication (Document 104), with a load equal to, say, 10 scale intervals 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. Zero range - The maximum range of operation of the push button zero device, and the power switch, 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, 0,36 kg to the instrument and press the zero button or operate the power switch; the instrument should not rezero; and

(b) reduce the load to, say, 0,24 kg and again press the zero button or operate the power switch; the instrument should indicate zero balance.

4. 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 the 10e load is removed and zero allowed to automatically reset, or is manually reset, in the tilted position, the instrument should satisfy the accuracy requirements given above.

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

Note: this test does not establish correct mass indications; a separate test, which may be carried out in conjunction with this test in accordance with the Commission's recommended testing procedure for the elimination of rounding errors - Document 104 - is necessary.

6. Range of indication

(a) The maximum mass indicated should not exceed the maximum capacity (Max); above this, the indicator should be blank.

(b) The minimum mass indicated should be zero; below this the indicator should be blank.

TABLE 1

Indicated mass kg	Unit price $/kg	Price $
0,000	0,00	0,00
0,100	99,99	10,00
0,105	98,98	10,39
0,110	97,97	10,78
0,120	96,95	11,63
0,130	95,95	12,47
0,140	94,94	13,29
0,150	83,84	12,58
0,160	72,73	11,64
0,170	61,61	10,47
0,180	50,51	9,09
0,190	49,49	9,40
0,200	39,39	7,88
0,300	29,29	8,79
0,400	19,29	7,72
0,500	9,00	4,50
0,600	55,16	33,10
0,700	39,02	27,31
0,800	58,99	47,19
0,900	70,99	63,89
1,000	75,99	75,99
2,000	80,99	161,98
3,000	85,39	256,17
4,000	96,99	387,96
5,000	97,99	489,95
6,000	98,99	593,94
7,000	99,99	699,93
8,000	99,99	799,92
9,000	99,99	899,91
10,000	99,99	999,90
11,000	50,00	550,00
12,000	50,00	600,00
13,000	50,00	650,00
14,000	50,00	700,00
15,000	50,00	750,00

Test Procedure - 15-kg Instrument with Unit Price to $99,99/kg and Total Price to $999,99.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/98

VARIATION No 1

Pattern: Kubota Weighing Instrument Model LA-155

Submitter: Ads-Anker Data Systems Pty Ltd,
212 Elizabeth Street,
Sydney, New South Wales, 2010.

1. Description of Variant

1.1 Variant 2

Model LA-155 or LB-155 without non-operative keys at the ends of the keyboard (Figure 7).

13/3/81

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/98

VARIATION No 2

Pattern: Kubota Weighing Instrument Model LA-155

Submittor: Ads-Anker Data Systems Pty Ltd
212 Elizabeth Street
Sydney, New South Wales, 2010.

1. Description of Variant 3

Fitted with an output socket for the connection of auxiliary or peripheral equipment.

17/6/83

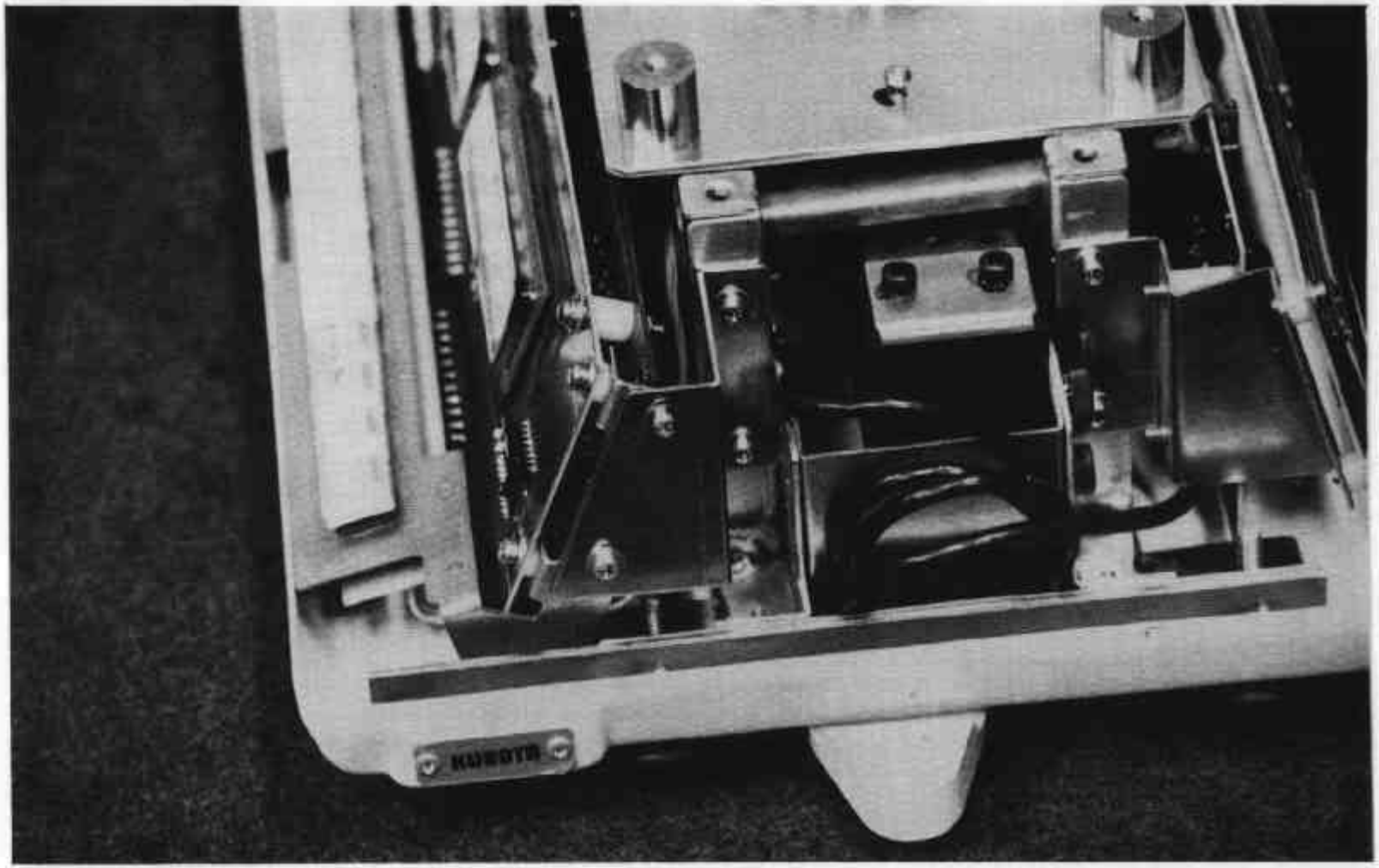
FIGURE 6/4D/98 - 1

6/6/80

Kubota Model LA-155 - Vendor's Side

Kubota Model LA-155 - Purchaser's Side

FIGURE 6/4D/98 - 3



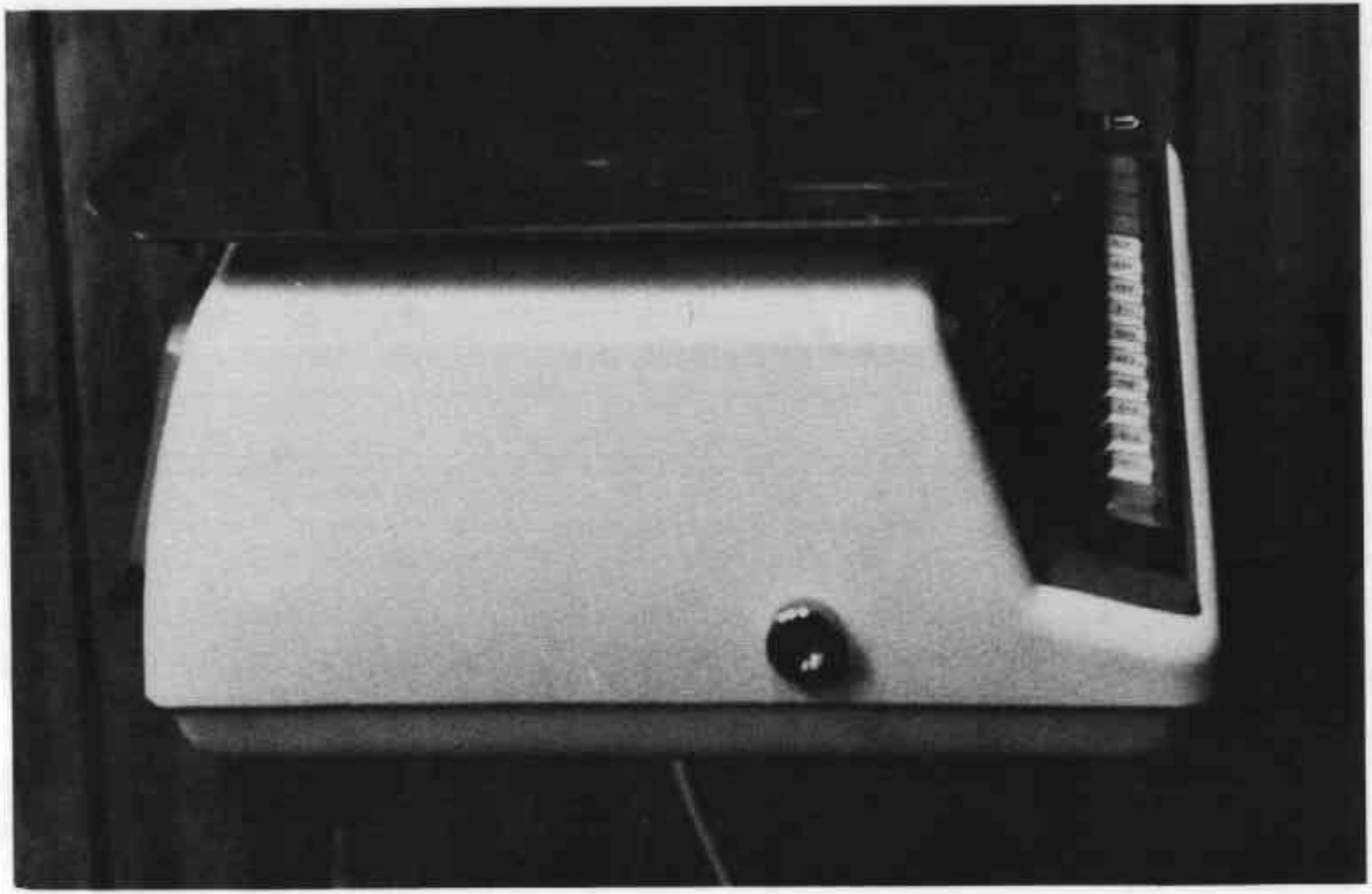
Mounting of Load Cell

FIGURE 6/4D/98 - 4

Model LA-155 Showing Sealing

FIGURE 6/4D/98 - 5

6/6/80



Model LA-155 Showing Stamping Plug

FIGURE 6/4D/98 - 6

Kubota Model LB-155

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FIGURE 6/40/98 - 7

155 Series without Non-operative Keys