NATIONAL STANDARDS COMMISSION

NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/4D/240

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

Berkel Model 687 Weighing Instrument

submitted by Berkel Australia Pty Ltd
19 Evans Street
Burwood Vic 3125.

Conditions of Approval

This approval is subject to review on or after 1/3/91.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/240.

This approval may be withdrawn if the instruments are constructed and used other than in accordance with the drawings and specifications lodged with the Commission.

Signed

J. Birch

Executive Director

Descriptive Advice

Pattern: approved 27/2/86

. Berkel model 687 self-indicating weighing and printing instrument of 15 kg capacity with a verification scale interval of 0.005 kg.

Variants: approved 27/2/86

1. With the purchaser and/or vendor indicators separate from the weighing instrument.

2. Without the printer.

3. With the tare function modified to show a minus quantity in the mass indicator.

Technical Schedule No 6/4D/240 describes the pattern and variants 1 to 3.

Filing Advice

The documentation for this approval comprises:

Certificate of Approval No 6/4D/240 dated 18/8/86
Technical Schedule No 6/4D/230 dated 18/8/86
Test Procedure No 6/4D/240 dated 18/8/86
Figures 1 to 4 dated 18/8/86

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/240

Pattern: Berkel Model 687 Weighing Instrument

Submittor: Berkel Australia Pty Ltd
19 Evans Street
Burwood Vic 3125

1. Description of Pattern

The pattern is a self-indicating price-computing weighing and printing instrument of 15 kg capacity with a verification scale interval of 0.005 kg with unit price to $999.99/kg and price to $9999.99 (Figure 1). Unit price is entered via the decimal keyboard or through the price-look-up (PLU) section of the instrument, and cancelled by pressing a button marked C. Pressing the button marked F retains unit price. The instrument may be fitted with output sockets for the connection of auxiliary and/or peripheral devices.

The instrument can be used simultaneously by two vendors and is capable of totalising a number of weighing and non-weighed items for each vendor. The total price is displayed in the price display; the mass and unit price displays are blank. (The alphanumeric indicator shows TOTAL).

The description of each item selected from the PLU memory is displayed by twenty alphanumeric indicators in the DESCRIPTION indicator. The number of items entered for each transaction is displayed in the ITEM indicator.

The integral printer is capable of printing a label or a ticket for each item of the transaction (Figure 2) and may produce a ticket showing the total price of the transaction (Figure 3).

1.1 Zero

An automatic zero-setting device resets zero within ± 0.25e whenever the instrument comes to rest within 0.5e of zero.

Additionally, a device will reset zero when power is applied to the instrument, provided the instrument is within ± 20e of the factory-set reference point, or when the platter comes to rest at not more than 20e below zero.

A self-checking zero-check test program occurs every 0.4s when the instrument is not loaded; if an error in zero setting is encounted an error signal is given and the instrument becomes inoperative until the fault is cleared.

1.2 Display Check

When power is applied to the instrument, all the indicators display from 0 to 9, then blank, before the instrument zeroes.

1.3 Levelling

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

1.4 Taring

A semi-automatic subtractive taring device of up to 10 kg capacity is fitted. The tare is entered by pressing the key marked T on the keyboard, a light marked T illuminates when the tare mass has been entered. On removal of the tare mass, the mass indicator will blank or show non-numerical symbols.

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1.5 Marking

Instruments are marked with the following data, together in one location:

Manufacturer's name or mark	
Serial number of instrument	
NSC approval number	NSC No 6/4D/240
Accuracy class	(III)
Maximum capacity	Max ..... *
Minimum capacity	Min ..... *
Verification scale interval	e = d = ... *
Maximum subtractive tare	T = - .....

* Repeated adjacent to each reading face if not already in that vicinity.

1.6 Verification Provision

Provision is made for the application of a verification mark.

2. Description of Variants

2.1 Variant 1

With the purchaser and/or vendor indicators separate from the weighing instrument and the interconnecting cable permanently connected within the weighing instrument (Figure 4).

2.2 Variant 2

Without the printer.

On such instruments the totalising facility of the instrument must be disabled.

2.3 Variant 3

With tare function modified to show the value of the tare mass in the mass indicator as a minus quantity.

This instrument is not for retail counter use, and must be so marked.

TEST PROCEDURE No 6/4D/240

All load applications should be in accordance with the Commission's recommended test 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;
± 1.0e for loads between 501e and 2000e; and
± 1.5e for loads above 2000e.

1. Zero Test

As the automatic device resets zero when the weighing mechanism is in equilibrium with 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 be 10e and 11e respectively.

2. Zero Range

The maximum range of operation of the zero adjustment should not exceed 4% of maximum capacity of the instrument (± 2% approximately). With zero balance indicated apply a load of, say, 2.5% of maximum capacity to the instrument and turn the power off and on via the power switch; the instrument should not rezero.

3. Range of Indication

(a) The maximum mass indicated should not exceed the marked maximum capacity (Max) by more than 10e; above this mass the indication should be the symbol ∩.

(b) The minimum mass indicated should be zero; below this mass the indication should blank or show non-numeric symbols, or show a mass preceded by a minus sign (see Variant 3).

4. Tare

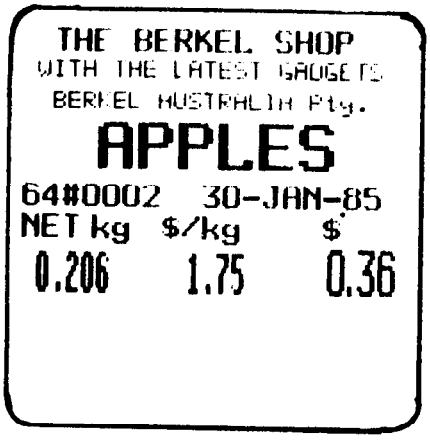
The semi-automatic tare function should be able to reset the mass indicator to zero within ± 0.25e at any load within the tare capacity. This may be checked as described for the Zero Test.

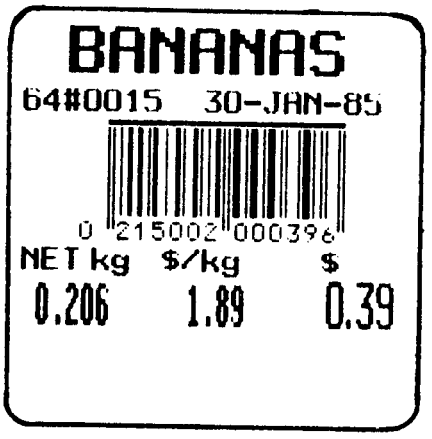
Attempt to tare a mass above the marked tare capacity. This should not be possible.

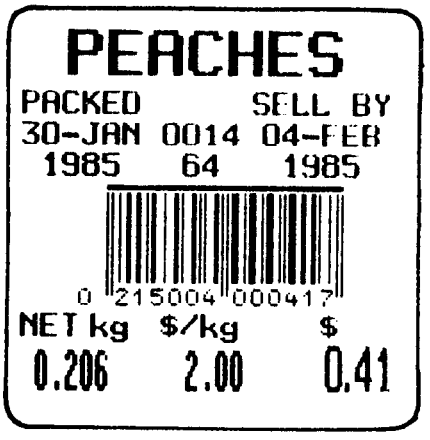
FIGURE 6/4D/240 - 1

Berkel Model 687

FIGURE 6/4D/240 - 2

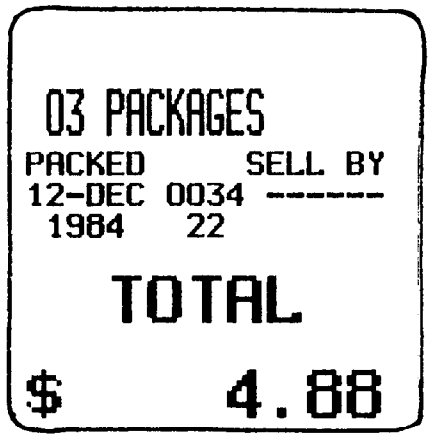






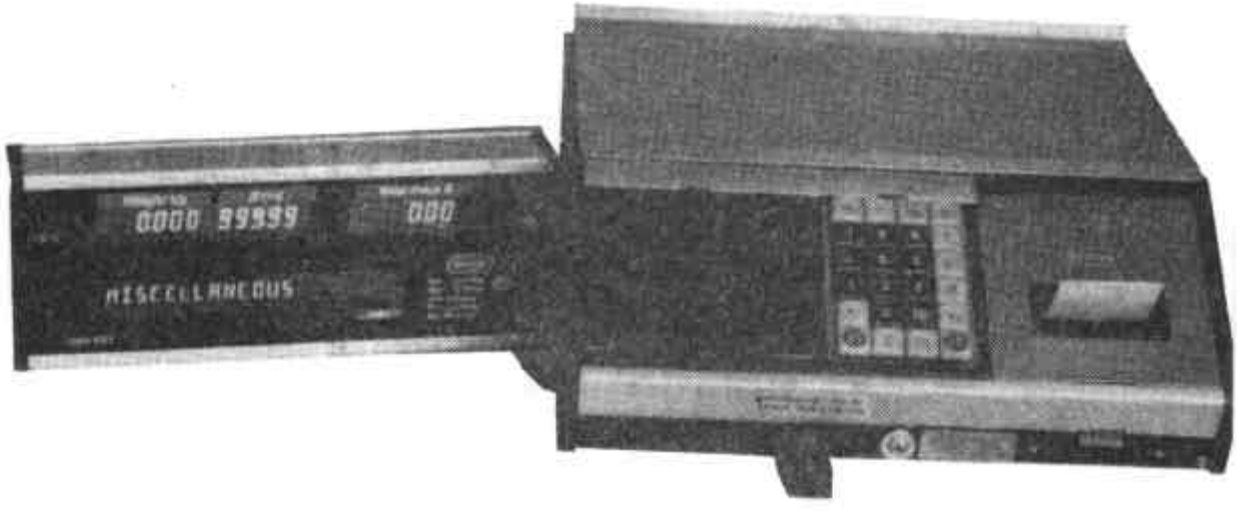
Typical Labels Or Tickets

FIGURE 6/4D/240 - 3



Totalised Ticket

FIGURE 6/40/240 - 4



With Separate Indicators