12 LYONPARK ROAD NORTH RYDE SYDNEY N.S.W.

Correspondence: Executive Officer
P.O. Box 282 NORTH RYDE
N.S.W. 2113
Telegrams: NATSTANCOM SYDNEY
Telephone: 888 3922

CERTIFICATE OF APPROVAL No 6/4D/54 CANCELLED o 1

This Certificate replaces Certificate No 6/4D/54 dated 13 February 1975 and Certificate No 6/4D/54 - Variation No 1 dated 19 February 1976, which are hereby cancelled.

This is to certify that the patterns of the

Toledo Weighing Instrument Model 8202

submitted by Toledo-Berkel Pty Ltd,
525 Graham Street,
Port Melbourne, Victoria, 3207,

have been approved under the Weights and Measures (Patterns of Instruments) Regulations as being suitable for use for trade.

Date of Approval: 11 August 1977

The patterns are described in Technical Schedule No 6/4D/54, and in drawings and specifications lodged with the Commission.

The approval is subject to review on or after 1 September 1982.

All instruments conforming to this approval shall be marked with the approval number "NSC No 6/4D/54".

Signed

Executive ~~Officer~~

14/10/77

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/54

Pattern: Toledo Model 8202 Weigning Instrument

Submittor: Toledo-Berkel Pty Ltd,
525 Granam Street,
Port Melbourne, Victoria, 3207.

Date of Approval: 11 August 1977

Tnis Tecnnical Scnedule replaces Tecnnical Scnedule No 6/4D/54 dated 8 May 1975 and Tecnnical Scnedule No 6/4D/54 - Variation No 1 dated 19 February 1976.

All instruments conforming to tnis approval snall be marked "NSC No 6/4D/54".

Description:

Tne pattern is a self-indicating price-computing weigning instrument (see Figures 1 and 2) of capacity 9,995 kg by 0,005-kg graduations witn price computing in 1-c increments from 1 c to $9,99 per kg and total price to $99,85. Weignt, unit price and total price are digitally indicated on botn tne vendor's and tne purcnaser's sides (see Figure 3). Tne unit price is entered sequentially by ten pusn-buttons and cancelled automatically wnen tne weignt indicated is below 0,035 kg or wnen tne "C" button is pressed.

Tne load receptor is supported by a lever system (see Figure 4) naving a Toledo 6,5-kg cantilever load cell as tne resistant mecnanism (see Figure 5).

Tne instrument will rezero automatically wnenever tne instrument comes to rest witnin one graduation of zero; tnis is indicated by tne word "zero" being illuminated. A press-button is provided for rezeroing tne instrument wnen tne zero nas cnanged by more tnan one graduation.

Tne instrument is provided witn a level indicator and adjustable feet (see Figure 1). Adjacent to tne level indicator is a notice advising tnat tne instrument must be level wnen in use.

Successive operations of tne "verify" button can be used to blank out tne indicator or display "all-8" wnile tne button is depressed. Tnis cnecks tnat tne display is working correctly.

A lead-and-wire seal prevents tne cover of tne weignt indicator being removed (see Figure 3).

Tne instrument is marked adjacent to eacn weignt indicator, for example:

(III)

Max	=	9,995 kg
Min	=	0,1 kg
e = d_a	=	0,005 kg

Tne approval includes:

1. Tne 8202 witn a semi-automatic tare mecnanism witn a maximum effect equal to 0,995 kg. A container placed on tne load receptor is automatically tared to witnin 0,25e wnen tne tare button is pressed. A tare lignt adjacent to eacn weignt indicator illuminates wnen any tare greater tnan 0,25e is selected (see Figure 6). On removal of tne container tne value of tne tare (rounded to tne nearest wnole number) is indicated on tne weignt indicator prefixed by a minus (-) sign. Tne tare will automatically cancel after a weigning or, if internally selected, require cancelling by tne "C" button.

   Tne instrument is marked adjacent to tne weignt indicator, for example:

(III)

Max	=	9,995 kg
Min	=	0,1 kg
e = d_a	=	0,005 kg
T	=	- 0,995 kg

   and "not for retail counter use".

2. A prepack weigning instrument comprising a Toledo 8202 witn tare and witn an output socket providing weignt, unit-price and total-price information to a self-adnesive label printer (see Figure 7). Tne printer is innibited to prevent printing wnen tne load is less tnan 0,1 kg. A sample ticket is illustrated in Figure 8.

A preselected subtractive tare mecnanism witn a maximum effect of 0,095 kg or 0,995 kg may also be fitted to tne prepack weigning instrument. Tare is selected in 0,005-kg increments by pressing tne appropriate value buttons on tne keyboard and tnen tne tare button.

3. Tne instrument witnout price computing witn tne weigning unit and weignt indicator in separate nousings (see Figures 9 and 10). Tne level indicator is located on tne top of tne weigning-unit nousing. Adjacent to tne level indicator is a notice advising tnat tne instrument must be level wnen in use.

   Tne weignt-indicator unit comprises a combined purcnaser's and vendor's weignt indicator and associated electronic circuits. It may be located remote from but directly associated witn tne weigning unit.* Tne serial number of tne load cell is sealed to tne weigning unit (see Figure 10).

   Tne "verify" and "zero" buttons and tne illuminated "zero" are provided on tne weignt-indicator unit. A lead-and-wire seal prevents tne cover of tne weignt-indicator unit being removed and seals tne serial number of tne load cell in tne weigning unit to tne weignt-indicator unit (see Figure 9).

   Tne instrument is marked adjacent to tne weignt reading face, for example:

   (III)

Max	=	9,995 kg
Min	=	0,1 kg
$d_{\text{e}} = e$	=	0,005 kg

   and witn a notice advising tnat tne remote display snould be located so tnat it is directly associated witn tne weigning unit and so tnat tne weignt indications can be easily read by botn tne purcnaser and vendor.

4. An output socket on tne Toledo 8202 weigning instrument or on tne weignt-indicator unit may provide data to peripneral

* Inspectors snould ensure tnat tne instrument is installed so tnat tnere is a self-evident association between tne remote indicator and tne weigning unit and so tnat tne weignt indications can be easily read by botn tne purcnaser and tne vendor.

devices which are not a part of the measuring instrument.* These devices, which may only be provided with the authorisation of the Weights and Measures Authority of the State, may, for example, store and process the data, or print receipts, etc. Provision is made to seal the output socket.

Special Tests:

As the instrument is fitted with zero-drift tracking, the application of cumulative loads should not exceed five minutes' duration. Periodic removal of the load will allow the instrument to rezero and thus more closely simulate actual usage.

1. "Zero check" — place a small weight equal to, say, 10 graduations (10 d_i) on the load receptor before checking "zero". Two readings are taken at each applied load with the instrument equilibrium being disturbed before each reading.

   With an additional load of 0,25 d_i, that is, 10,25 d_i, on the load receptor, readings of 11 d_i and 11 d_i indicate that the alignment of the instrument is not correct; readings of 10 d_i and 11 d_i or 10 d_i and 10 d_i are acceptable.

   With an additional load of 0,75 d_i, that is, 10,75 d_i, on the load receptor, readings of 10 d_i and 10 d_i indicate that the alignment of the instrument is not correct; readings of 10 d_i and 11 d_i or 11 d_i and 11 d_i are acceptable.

2. Zero range — the maximum range of operation of the push-button 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, 0,24 kg to the instrument and press the "press to balance" button; the instrument should not rezero; and

   (b) reduce the load to, say, 0,16 kg and again press the "press to balance" button; the instrument should indicate zero balance.

* The measuring instrument examined and approved by the Commission is limited to the devices which determine the value of a physical quantity, control the measurement, and indicate the result of the measurement on a non-permanent visual display, for example, a seven-segment indicator.

3. Level sensitivity — wnen tne instrument is tilted so tnat tne bubble in tne level indicator moves 2 mm, zero snould not cnange and, wnen tested in tne tilted position, tne instrument snould satisfy tne weigning-accuracy specifications, tnat is, ± ½ graduation for tne first 500 graduations and ± 1 graduation over 500 and up to 2000 graduations.

4. Price-computing accuracy — tne indications and, if appropriate, tne printing of weignt, unit price and total price, as listed in Table 1, will indicate tnat tne price-computing and weignt circuit are functioning correctly. Tne exact figures snould be indicated as rounding is effected witnin tne computer.

5. Range of indication —

   (a) Tne maximum weignt indicated snould not exceed tne maximum capacity (Max); above tnis indicated weignt tne indicator snould be blank.

   (b) Tne minimum weignt indicated snould be zero; below tnis indicated weignt tne indicator snould be blank.

TABLE 1

Indicated weignt kg	Unit price $	Total price $
0,000	0,00	00,00
0,100	9,99	01,00
0,110	8,98	00,99
0,120	7,97	00,96
0,130	6,90	00,90
0,140	5,90	00,83
0,150	4,95	00,74
0,160	3,80	00,61
0,170	2,80	00,48
0,180	1,80	00,32
0,190	0,80	00,15
0,200	5,71	01,14
0,300	7,62	02,29
0,400	7,53	03,01
0,500	8,44	04,22
0,600	9,34	05,60
0,700	9,20	06,44
0,800	9,16	07,33
0,900	9,07	08,16
1,000	9,58	09,58
2,000	9,69	19,38
3,000	9,79	29,37
4,000	9,89	39,56
5,000	9,99	49,95
6,000	9,99	59,94
7,000	9,99	69,93
8,000	9,99	79,92
9,000	9,99	89,91
9,995	9,99	99,85

Test Procedure — 9,995-kg by 0,005-kg Instrument

FIGURE 6/4D/54 - 1

Toledo 8202 — Vendor's Side

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FIGURE 6/4D/54 - 2

Toledo 8202 — Purchaser's Side

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FIGURE 6/4D/54 - 3

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Toledo 8202 — Weight, Unit-price and Total-price Reading Face

FIGURE 6/4D/54 - 4

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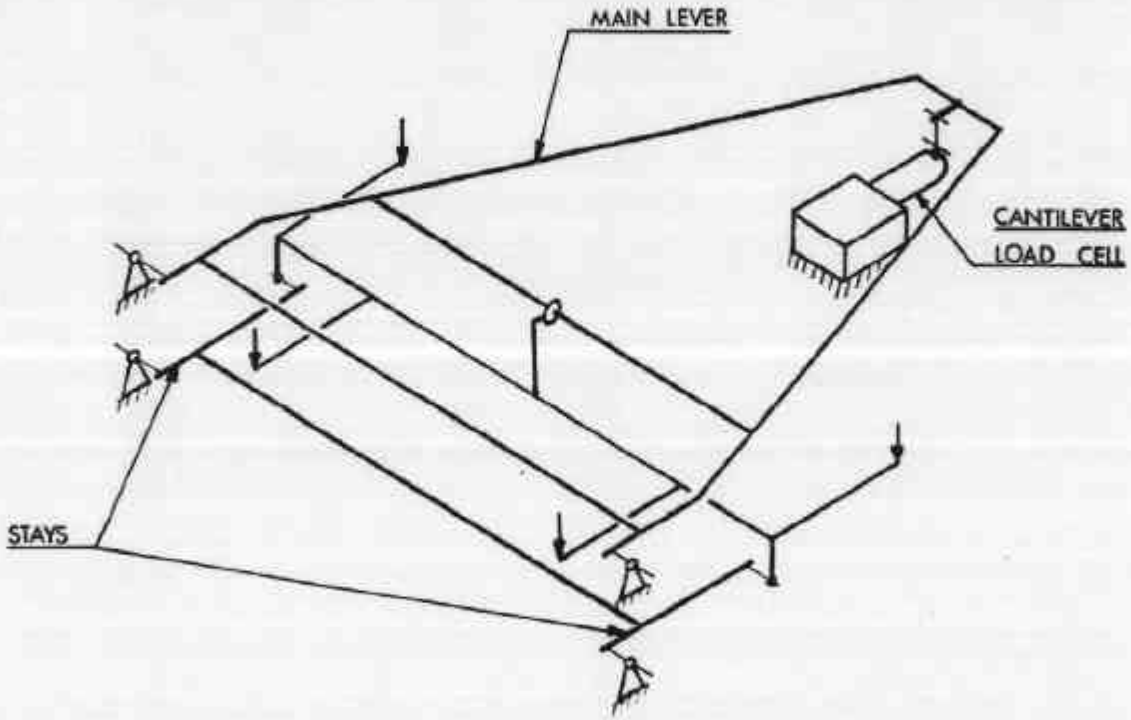

Toledo 8202 Lever System — Scnematic Diagram

FIGURE 6/4D/54 - 5

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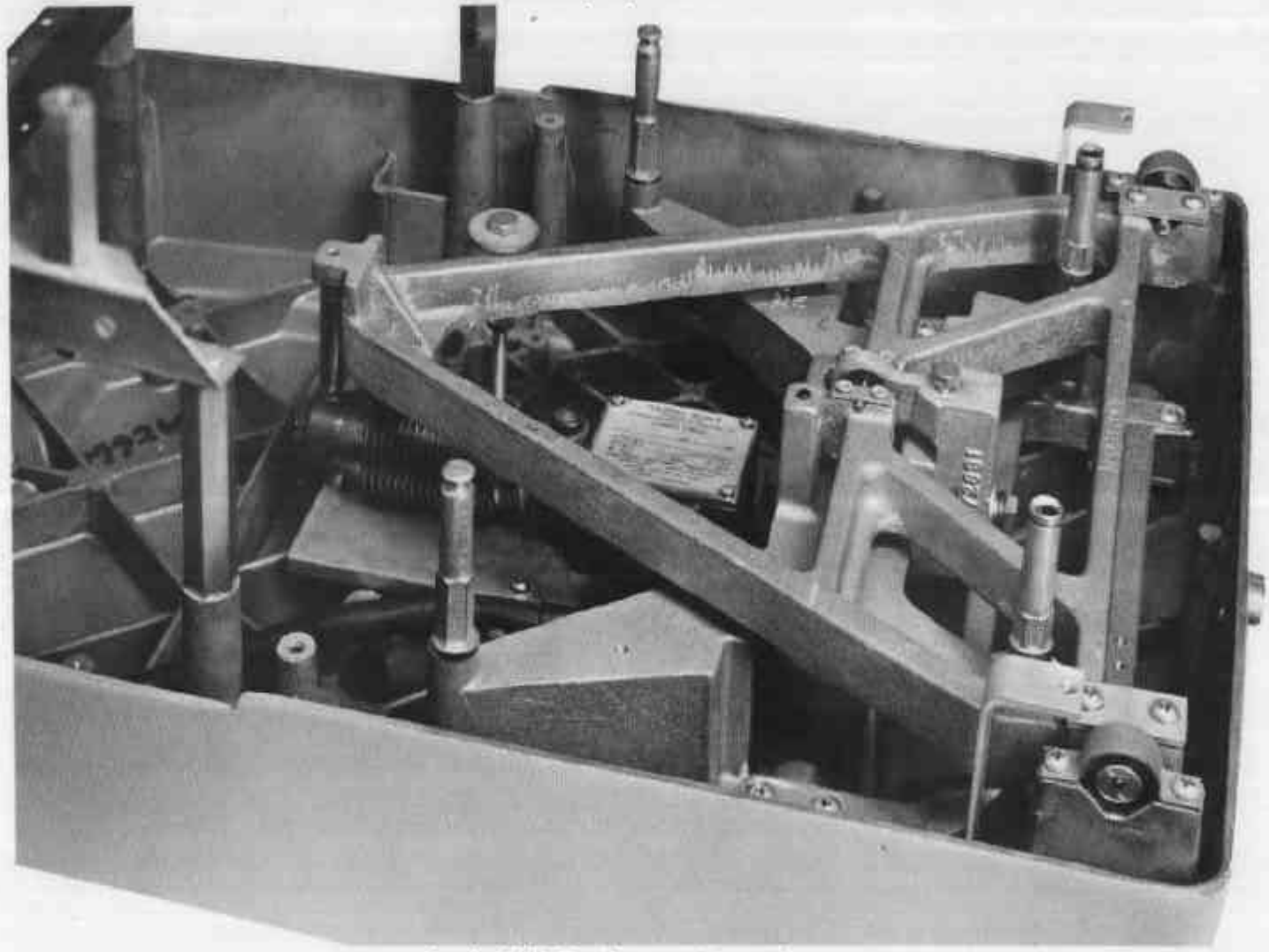


Load Cell Resistant Mecnanism

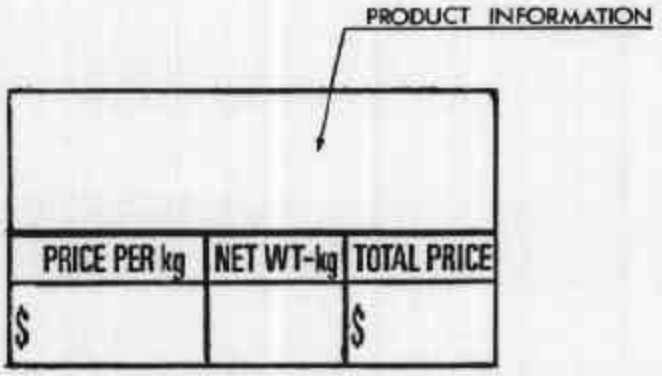
FIGURE 6/4D/54 - 6

Toledo 8202 — Weignt, Unit-price, Total-price Reading Face, Non-retail Instrument

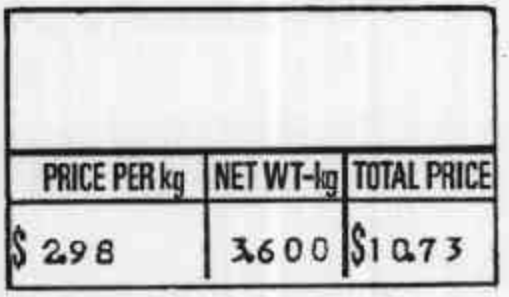
FIGURE 6/4D/54 - 7

Label Printer

FIGURE 6/4D/54 - 8



(a) Before printing



(b) After printing

Sample Label (actual size)

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FIGURE 6/4D/54 - 9

Toledo 8202 — Weigning Unit

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FIGURE 6/4D/54 - 10

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Toledo 8202 — Weignt-indicator Unit