



NATIONAL STANDARDS COMMISSION

**CANCELLED**

Cent-No.  
2/1

CERTIFICATE OF APPROVAL No 6/4D/82

This is to certify that the pattern and variants of the

Toledo Weighing Instrument Model 8203

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.

Pattern: approved 8/6/78

15,025 kg capacity by 5 g scale intervals, with price computing in 1 c increments to \$99,99/kg, total price to \$999,99; Toledo type 0721 load cell.

Variants:

1. With unit price cancelling only when clear button is pressed.
2. Non-retail instrument with semi-automatic tare.
3. As a prepackaging weighing instrument with a Model 300 label printer.
4. Without price computing, with weighing unit and mass indicator in separate housings.
5. With data cable for peripheral equipment.
6. Of capacity 9,995 kg by 5 g scale intervals, with price computing in 1 c increments to \$99,99/kg, total price to \$999,40.
7. With price computing in 1 c increments to \$799,99/kg, total price to \$999,99.
8. With maximum unit price and total price of \$99,99.

31/7/79

.../2

Variation No 1: approved 18/7/79

9. With 6,5 kg open-construction load cell; Toledo type 0723.
10. With Model 3000 ticket printer printing mass, unit price and price, or printing price only, as a retail counter instrument.
11. The prepackaging instrument with Model 3000 label printer.

The pattern and variants are described in Technical Schedule No 6/4D/82 and Variation No 1 issued on 24 July 1978 and 31 July 1979 and in drawings and specifications lodged with the Commission.

The approval is subject to review on or after 1 June 1983.

All instruments conforming to this approval shall be marked with the approval number "NSC No 6/4D/82".

---

This Certificate replaces the Certificate issued on 24 July 1978, which may be destroyed.

Signed



Executive Director

31/7/79



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No 6/4D/82

Pattern: Toledo Weighing Instrument Model 8203

Submitter: Toledo-Berkel Pty Ltd,  
525 Graham Street,  
Port Melbourne, Victoria, 3207.

Date of Approval: 8 June 1978

All instruments conforming to this approval shall be marked "NSC No 6/4D/82".

### Description:

The pattern is a self-indicating price-computing weighing instrument (see Figures 1 and 2) of capacity 15,025 kg by 0,005-kg scale interval with price computing in 1-c increments from 1 c to \$99,99 per kg and total price to \$999,99. Weight, unit price and total price are digitally indicated on both the vendor's and the purchaser's sides (see Figure 3). The unit price is entered sequentially by ten push-buttons and cancelled automatically when the weight indicated is below 0,035 kg or when the "clear" button is pressed.

The load receptor is supported by a lever system (see Figure 4) having a Toledo 6,5-kg cantilever load cell as the resistant mechanism (see Figure 5).

The instrument will rezero automatically whenever the instrument comes to rest within 0,5 scale interval of zero; this is indicated by the word "zero" being illuminated. A press-button is provided for rezeroing the instrument when the zero has changed by more than 0,5 scale interval.

The instrument is provided with a level indicator and adjustable feet (see Figure 1). Adjacent to the level indicator is a notice advising that the instrument must be level when in use.

Successive operations of the "clear" button can be used to blank out the indicator or display "all-8" while the button is depressed. This checks that the display is working correctly.

A lead-and-wire seal secures the weight indicator to the weighing unit and a second lead-and-wire seal prevents the cover of the weight indicator being removed (see Figure 3).

The instrument is marked adjacent to each weight indicator, for example:

(III)

Max	=	15,025 kg
Min	=	0,1 kg
$d_a = e$	=	0,005 kg

The approval includes:

1. The unit price cancelling only when the clear button is pressed.
2. Model 8203 with a semi-automatic tare mechanism with a maximum effect equal to 9,995 kg. A container placed on the load receptor is automatically tared to within 0,25e when the tare button is pressed. A tare light adjacent to each weight indicator illuminates when any tare greater than 0,25e is selected (see Figure 6). On removal of the container the value of the tare is indicated on the weight indicator prefixed by a - (minus) sign. The tare will automatically cancel after a weighing or, if internally set, requires cancelling by the "clear" button.

The instrument is marked adjacent to the weight indicator, for example:

(III)

Max	=	15,025 kg
Min	=	0,1 kg
$d_a = e$	=	0,005 kg
T	=	- 9,995 kg

and "not for retail counter use".

3. A prepack weighing instrument comprising a Model 8203 with semi-automatic tare and a self-adhesive label printer (see Figure 7). The printer is inhibited to prevent printing when the load is less than 0,1 kg. A sample ticket is illustrated in Figure 8.

In addition to the semi-automatic tare mechanism, a preselected subtractive tare mechanism with a maximum effect of 0,995 kg

may be fitted to the prepack weighing instrument. Tare may be selected in 0,005-kg increments by pressing the appropriate value buttons on the keyboard and then the tare button.

The data cable providing the weight, unit-price and total-price information to the label printer is internally connected within the weighing instrument and within the label printer. A cover within the label printer prevents access to the printer circuit boards and the data cable connections; it is sealed by lead-and-wire seals (see Figure 9).

4. The instrument without price computing, with the weighing unit and weight indicator in separate housings (see Figures 10 and 11). The level indicator is located on the top of the weighing-unit housing. Adjacent to the level indicator is a notice advising that the instrument must be level when in use.

The weight-indicator unit comprises a combined purchaser's and vendor's weight indicator and associated electronic circuits. It must be located so that there is a self-evident association between the remote indicator and the weighing unit and so that the weight indications can be easily read by both the purchaser and the vendor. The data cable providing the weight information to the weight indicator is internally connected within the weighing unit and within the weight-indicator unit.

"Verify" and "zero" buttons and the illuminated zero indicator are provided on the weight-indicator unit. A lead seal prevents the cover of the weighing unit being removed and seals the serial number of the load cell in the weighing unit to the weighing unit. A lead-and-wire seal prevents the cover of the weight-indicator unit being removed and seals the serial number of the load cell in the weighing unit to the weight-indicator unit (see Figures 10 and 11).

The instrument is marked adjacent to the weight reading face, for example:

(III)

Max	=	15,025 kg
Min	=	0,1 kg
$d_d = e$	=	0,005 kg

and with a notice advising that the remote display should be located so that it is directly associated with the weighing unit and so that the weight indications can be easily read by both the purchaser and vendor.

5. A data cable on the Toledo 8203 weighing instrument or on the weight-indicator unit may provide data to peripheral 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 the weight, etc.
6. An instrument of capacity 9,995 kg by 0,005-kg scale intervals with price computing in l-c increments from l-c to \$99,99 per kilogram and total price to \$999,40.
7. An instrument with price computing in l-c increments from l-c to \$799,99 per kilogram with total price to \$999,99.
8. An instrument with a maximum unit price and total price to \$99,99.

#### 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 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, say, a load equal to 10e on the load receptor. The indication with 0,25e and 0,75e additional weight on the load receptor will then be 10e and 11e respectively.
2. Zero range — the maximum range of operation of the push-button zero device should not exceed 4% of the capacity of the instrument ( $\pm 2\%$  approximately). Satisfactory setting may be checked by the following method:
  - (a) with zero balance indicated, apply a load of, say, 0,36 kg

---

\* The measuring instrument examined and approved by the Commission is limited to the devices which determine and indicate the value of a physical quantity, the devices which calculate price and in the presence of the purchaser or the vendor indicate price, the devices which print the value of the physical quantity together with the price, and the devices which control the measurement or price calculation. A device which receives weight data from the output socket and calculates price and, in the presence of the purchaser or vendor indicates or prints price, is a part of the measuring instrument which requires approval by the Commission.

- (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, 0,24 kg (0,16 kg)\*, and again press the "press to balance" button; the instrument should indicate zero balance.
3. 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 to a slope of 1 in 20, 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 weighing-accuracy specification, that is,  $\pm \frac{1}{2}$  scale interval for the first 500 scale intervals,  $\pm 1$  scale interval over 500 and up to 2000 scale intervals and  $\pm 1\frac{1}{2}$  scale intervals over 2000.

4. Price-computing accuracy — the indications of weight, unit price and total price as listed in Tables 1 to 6, will indicate that the price-computing and weight circuits are functioning correctly. The exact figures should be indicated as rounding is effected within the computer.

Note: This test does not establish correct weight 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.

5. Taring — at any load within the capacity of the tare mechanism, the tare mechanism in conjunction with the automatic zero device should be able to reset the weight indicator to zero within 0,25e. This may be checked as described for "zero test".
6. Range of indication —
- (a) The maximum weight indicated should not exceed the maximum capacity (Max); above this indicated weight the indicator should be blank.
- (b) The minimum weight indicated should be zero; below this indicated weight the indicator should be blank.

---

\* Figures in brackets refer to the 9,995-kg instrument.

TABLE 1

Indicated weight kg	Unit price \$/kg	Total 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
15,025	50,00	751,25

Test Procedure — 15,025-kg Instrument with Unit Price  
to \$99,99/kg and Total Price to \$999,99



TABLE 2

Indicated weight kg	Unit price \$/kg	Total price \$
0,000	0,00	0,00
0,100	799,99	80,00
0,105	799,88	83,99
0,110	799,78	87,98
0,120	799,66	95,96
0,130	799,55	103,94
0,140	799,44	111,92
0,150	709,33	<del>106,40</del> \$136.40
0,160	799,23	127,88
0,170	799,11	135,85
0,190	798,82	151,78
0,200	797,70	159,54
0,300	696,60	208,98
0,400	595,50	238,20
0,500	494,40	247,20
0,600	393,30	235,98
0,700	202,20	141,54
0,800	191,10	152,88
0,900	180,41	162,37
1,000	74,11	74,11
2,000	163,20	326,40
3,000	150,00	450,00
4,000	140,00	560,00
5,000	130,00	650,00
6,000	130,10	780,60
7,005	120,09	841,23
8,080	120,07	970,17
9,000	111,11	999,99
10,000	99,99	999,90
11,000	10,00	110,00
12,000	10,00	120,00
13,000	10,00	130,00
14,000	10,00	140,00
15,000	10,00	150,00
15,025	10,00	150,25

Test Procedure — 15,025-kg Instrument with Unit Price  
to \$799,99/kg and Total Price to \$999,99

TABLE 3

Indicated weight kg	Unit price \$/kg	Total price \$
0,000	00,00	00,00
0,100	99,99	10,00
0,105	98,99	10,39
0,110	97,99	10,78
0,120	96,99	11,64
0,130	95,99	12,48
0,140	94,99	13,30
0,150	93,99	14,10
0,160	92,99	14,88
0,170	91,99	15,64
0,180	90,96	16,37
0,190	89,88	17,08
0,200	79,77	15,95
0,300	69,66	20,90
0,400	59,55	23,82
0,500	49,44	24,72
0,600	39,33	23,60
0,700	29,22	20,45
0,800	19,11	15,29
0,900	9,14	8,23
1,000	30,51	30,51
2,000	20,03	40,06
3,000	17,00	51,00
4,000	17,00	68,00
5,000	15,00	75,00
6,000	14,00	84,00
7,000	14,00	98,00
8,000	12,00	96,00
9,000	11,11	99,99
10,000	9,99	99,90
11,000	5,00	55,00
12,000	5,00	60,00
13,000	5,00	65,00
14,000	5,00	70,00
15,000	5,00	75,00
15,025	5,05	75,88

Test Procedure — 15,025-kg Instrument with Unit Price  
to \$99,99/kg and Total Price to \$99,99

TABLE 4

Indicated weight kg	Unit price \$/kg	Total 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
9,995	99,99	999,40

Test Procedure — 9,995-kg Instrument with Unit Price  
to \$99,99/kg and Total Price to \$999,40

TABLE 5

Indicated weight kg	Unit price \$/kg	Total price \$
0,000	0,00	0,00
0,100	799,99	80,00
0,105	799,88	83,99
0,110	799,78	87,98
0,120	799,66	95,96
0,130	799,55	103,94
0,140	799,44	111,92
0,150	709,33	119,90
0,160	799,23	127,88
0,170	799,11	135,85
0,190	798,82	151,78
0,200	797,70	159,54
0,300	696,60	208,98
0,400	595,50	238,20
0,500	494,40	247,20
0,600	393,30	235,98
0,700	202,20	141,54
0,800	191,10	152,88
0,900	180,41	162,37
1,000	74,11	74,11
2,000	163,20	326,40
3,000	150,00	450,00
4,000	140,00	560,00
5,000	130,00	650,00
6,000	130,10	780,60
7,005	120,09	841,23
8,080	120,07	970,17
9,000	111,11	999,99
9,995	100,00	999,50

Test Procedure — 9,995-kg Instrument with Unit Price  
to \$799,99/kg and Total Price to \$999,99

TABLE 6

Indicated weight kg	Unit price \$/kg	Total price \$
0,000	00,00	00,00
0,100	99,99	10,00
0,105	98,99	10,39
0,110	97,99	10,78
0,120	96,99	11,64
0,130	95,99	12,48
0,140	94,99	13,30
0,150	93,99	14,10
0,160	92,99	14,88
0,170	91,99	15,64
0,180	90,96	16,37
0,190	89,88	17,08
0,200	79,77	15,95
0,300	69,66	20,90
0,400	59,55	23,82
0,500	49,44	24,72
0,600	39,33	23,60
0,700	29,22	20,45
0,800	19,11	15,29
0,900	9,14	8,23
1,000	30,51	30,51
2,000	20,03	40,06
3,000	17,00	51,00
4,000	17,00	68,00
5,000	15,00	75,00
6,000	14,00	84,00
7,000	14,00	98,00
8,000	12,00	96,00
9,000	11,11	99,99
9,995	10,00	99,95

Test Procedure — 9,995-kg Instrument with Unit Price to \$99,99/kg and Total Price to \$99,99



# NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/82

VARIATION No 1

Pattern: Toledo Weighing Instrument Model 8203

Submitter: Toledo-Berkel Pty Ltd,  
525 Graham Street,  
Port Melbourne, Victoria, 3207.

Date of Approval: 18/7/79

Description of Variant:

9. With 6,5 kg open-construction load cell, Toledo Type 0723.
10. The pattern with a Toledo Model 3000 ticket printer (Figure 12). The tickets may be hand-held or adhesive and may be printed with mass, unit price and price as illustrated in Figure 13, or price only, in which case the ticket may have the word DOLLARS printed above or below the price, or the symbol \$ printed before the price. The word DOLLARS or the symbol \$ may be either preprinted on the ticket or printed by the printer. The printer is inhibited from printing when the load is less than 20e for both the 15,025 kg and the 9,995 kg capacity instruments.

The cable providing data to the printer is internally connected within the weighing instrument and sealed to the printer as illustrated in Figure 14, or alternatively the serial number of the printer is sealed to the weighing unit ( : A  
Weights and Measures Authority may authorise either method of sealing.

The ticket printer is also sealed to prevent access to components the removal or replacement of which could affect the performance of the instrument (Figure 14).

11. The prepackaging weighing instrument (Variant 3) with Model 3000 printer replacing the Model 300 printer.

Test Procedure:

As described in Technical Schedule No 6/4D/82.

Accuracy Requirements:

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.



# NATIONAL STANDARDS COMMISSION

## NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/4D/82

CHANGE No 1

The description of the

Toledo Weighing Instrument Model 8203

given in Technical Schedule No 6/4D/82 dated 24 July 1978 is altered on page 5 - Special Test - Level Sensitivity - by changing the words:

"when the instrument is tilted to a slope of 1 in 20,"

to read

"When the instrument is tilted so that the bubble in the level indicator moves 2 mm,"

11/8/78





# NATIONAL STANDARDS COMMISSION

## NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/4D/82

CHANGE No 2

The description of the

Toledo Weighing Instrument Model 8203

given in Technical Schedule No 6/4D/82 is altered by:

in Table 2, changing the Total Price corresponding to a mass of 0,150 kg, unit price \$709,33, from \$119,90 to \$106,40.

FIGURE 6/4D/82 - 1



Toledo 8203 — Vendor's Side

24/7/78

FIGURE 6/4D/82 - 2



Toledo 8203 — Purchaser's Side

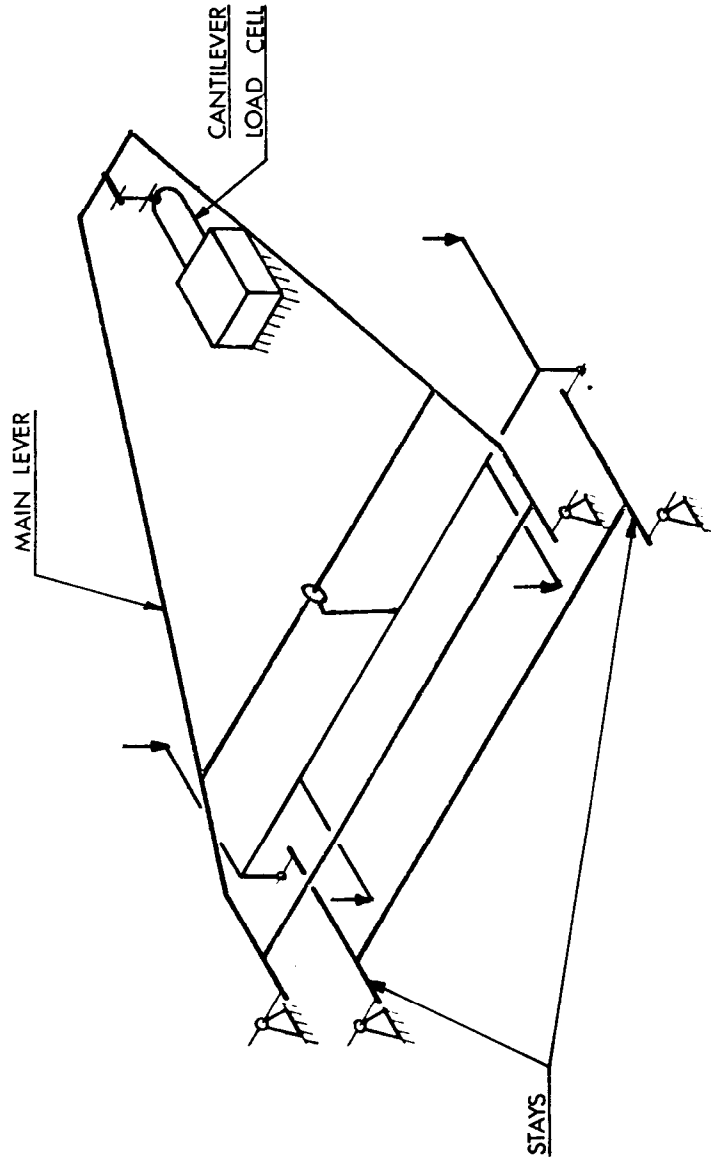
24/7/78

FIGURE 6/4D/82 - 3



Toledo 8203 — Weight, Unit-price and Total-price Reading Face

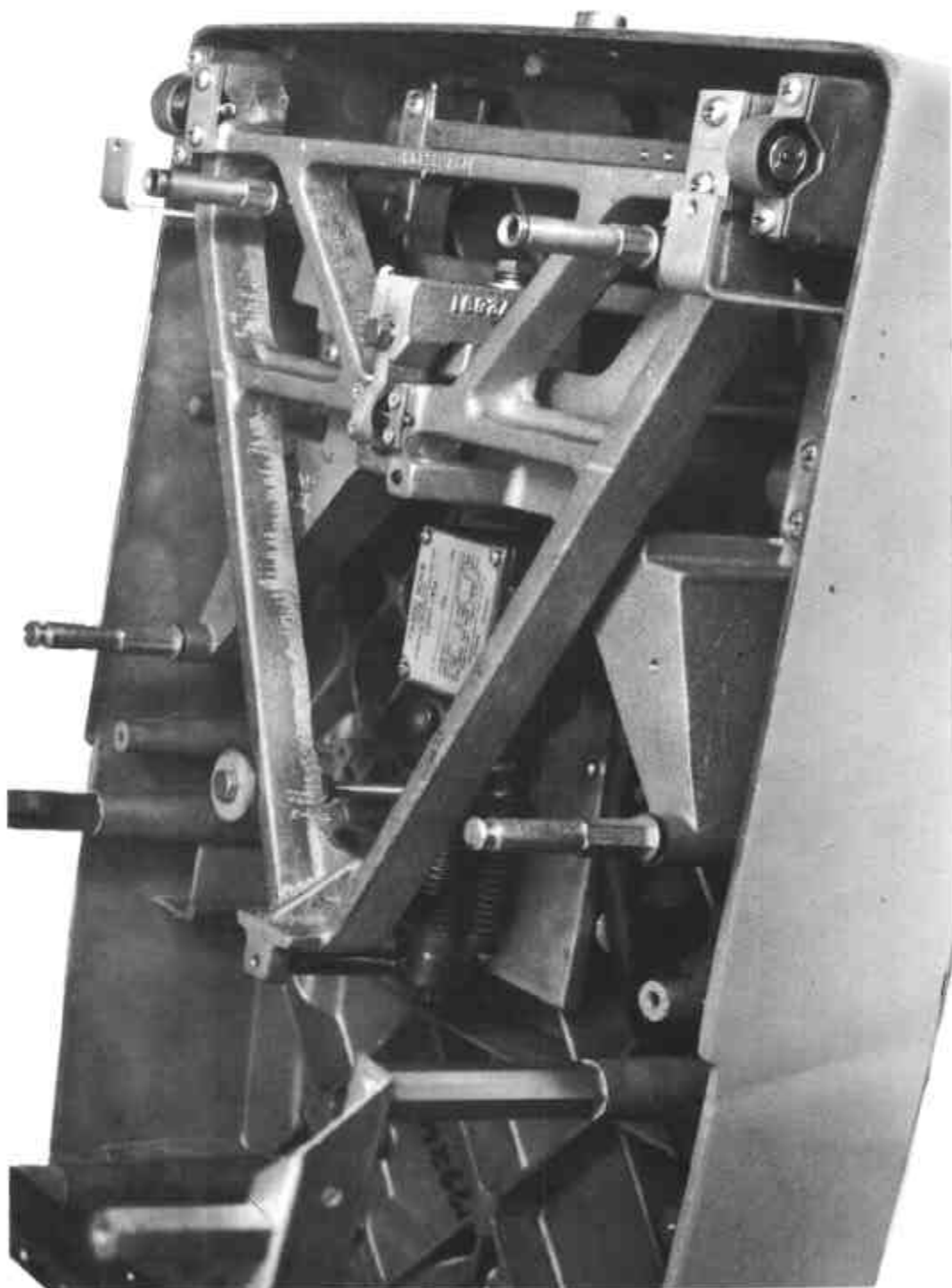
FIGURE 6/4D/82 - 4



Toledo 8203 Lever System — Schematic Diagram

24/7/78

FIGURE 6/4D/82 - 5

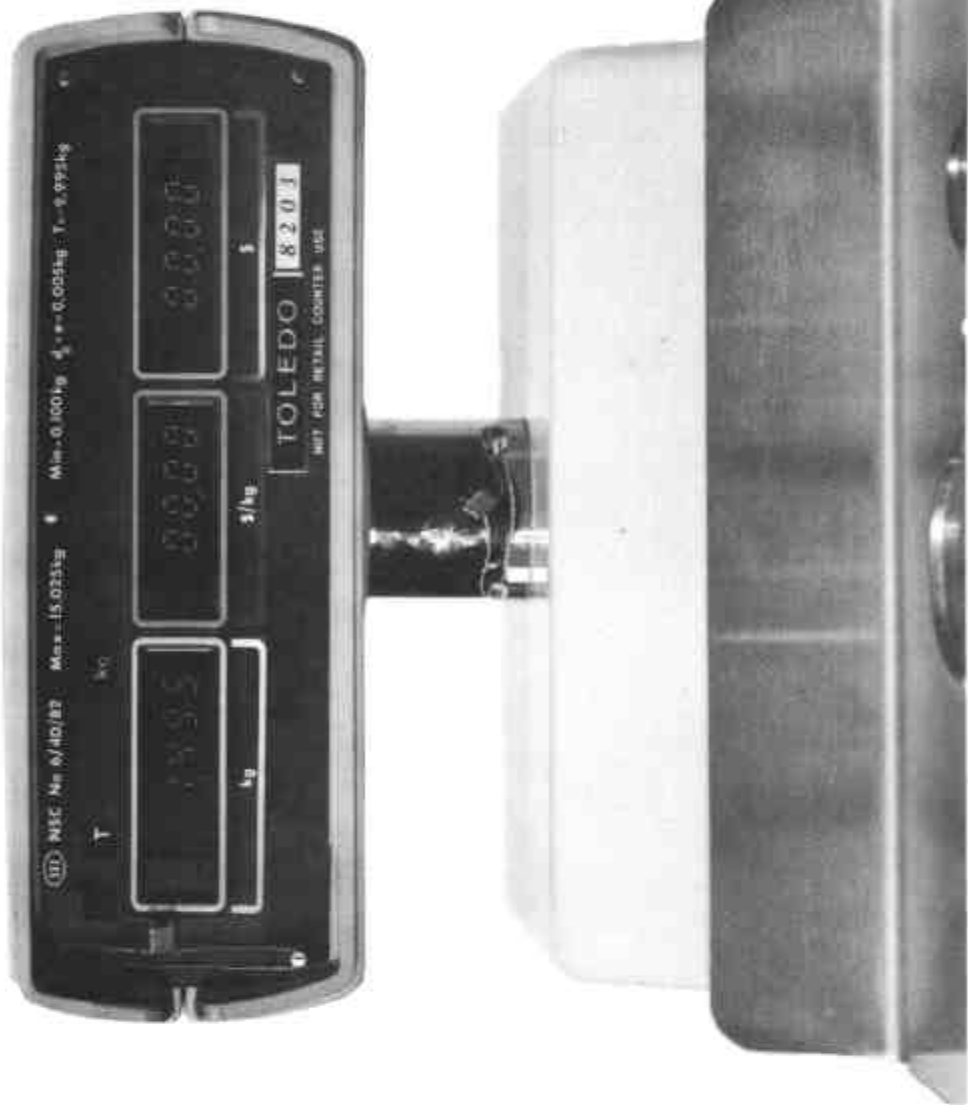


Toledo 8203 — Load-cell Resistant Mechanism

24/7/78

24/7/78

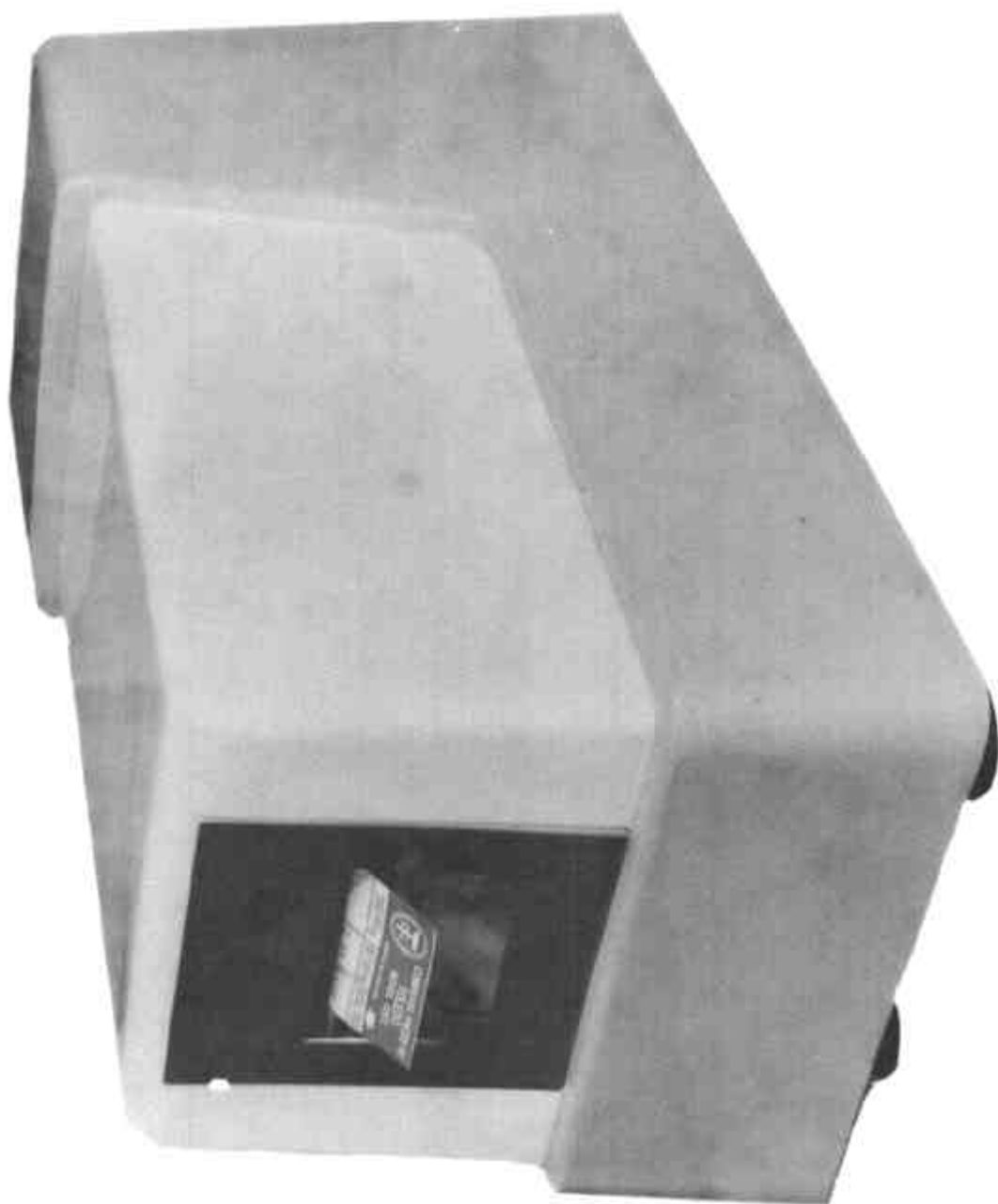
FIGURE 6/4D/S2 - 6



Toledo 8203 — Weight, Unit-price and Total-price Reading Face, Non-retail Instrument

(

FIGURE 6/4D/82 - 7



Label Printer



PRODUCT INFORMATION

PRICE PER kg	NET WT-kg	TOTAL PRICE
\$		\$

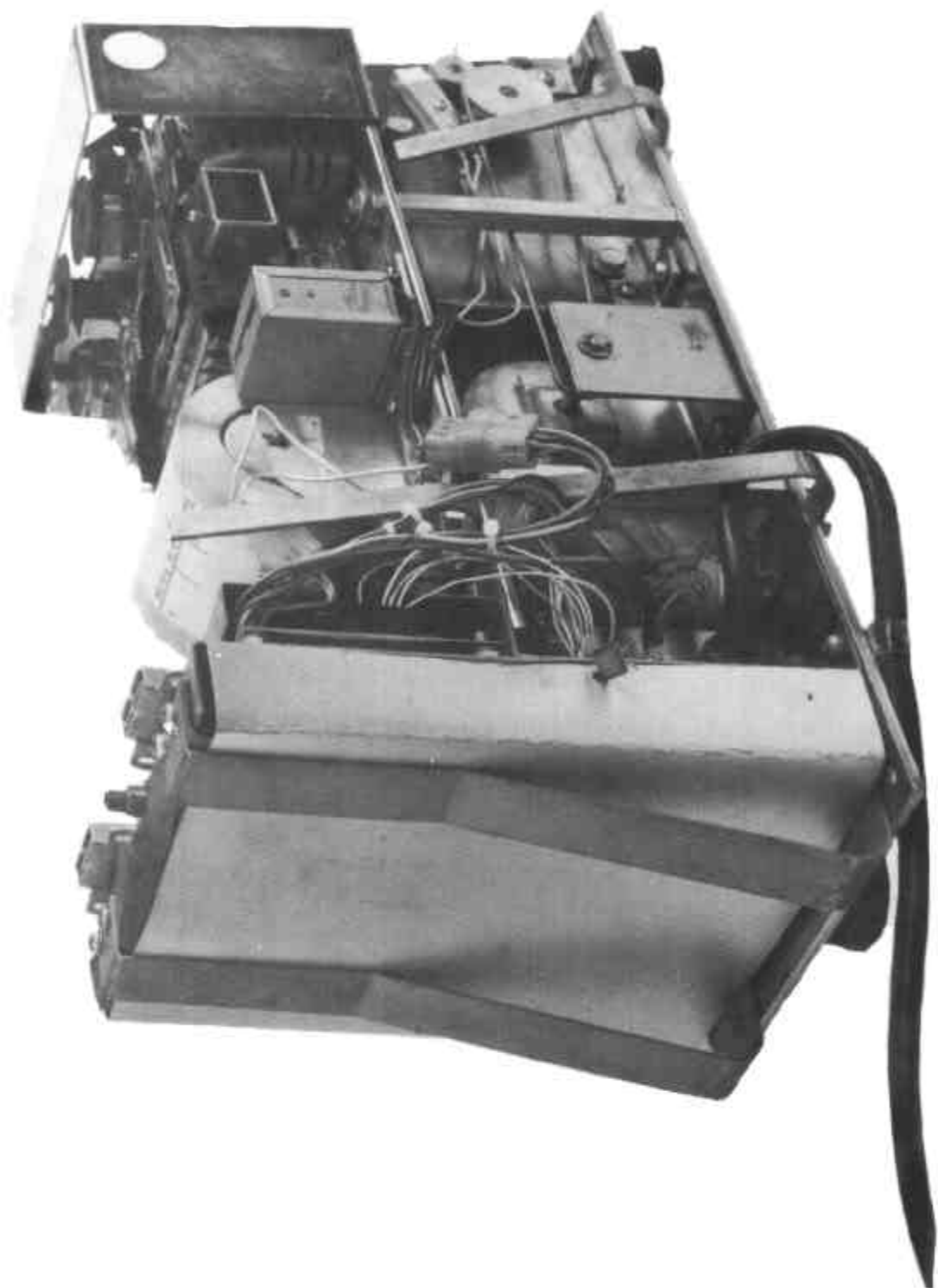
(a) Before printing

PRICE PER kg	NET WT-kg	TOTAL PRICE
\$ 298	3600	\$1073

(b) After printing

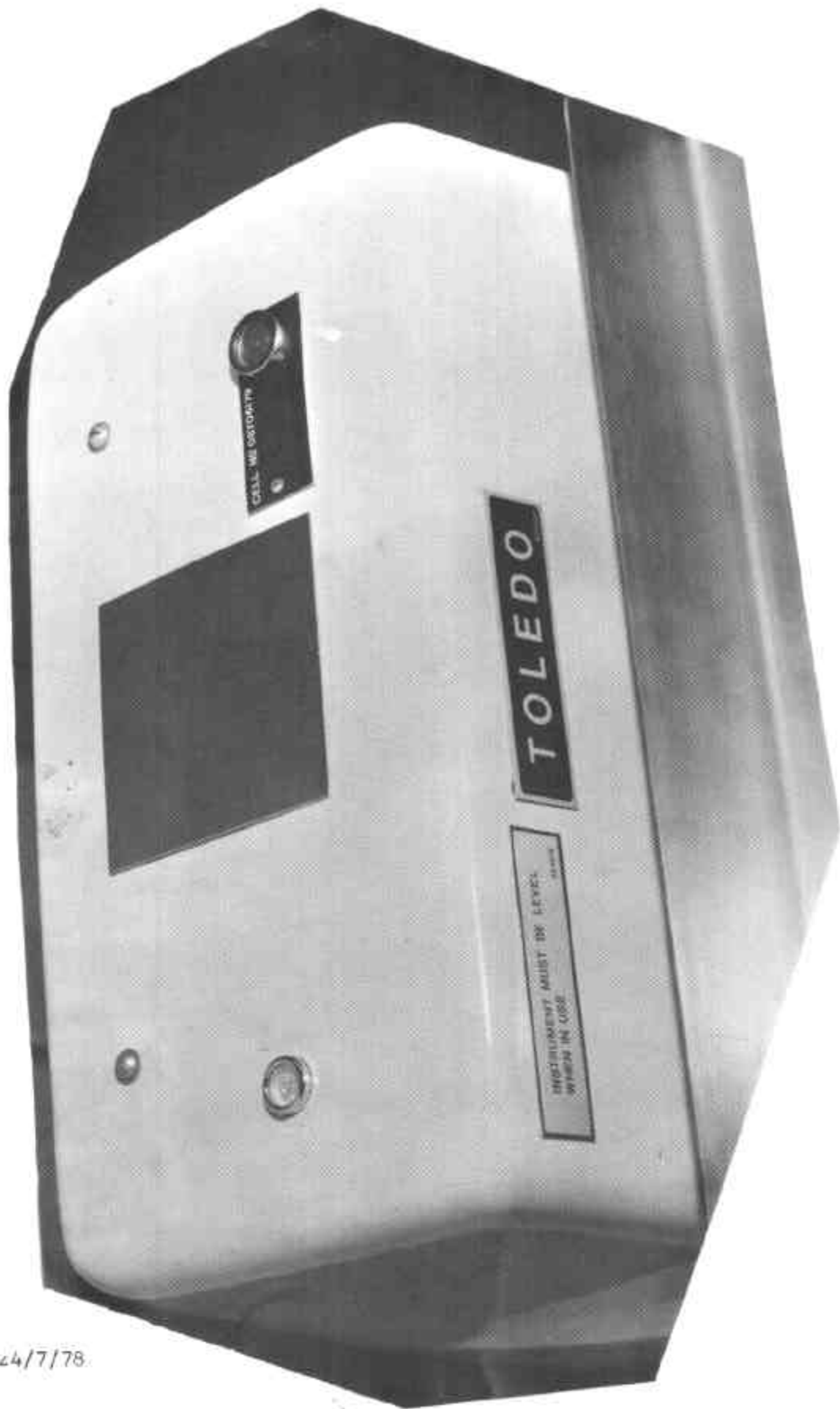
Sample Label (actual size)

FIGURE 6/4D/82 - 9



Label Printer — Sealing of Printer Circuit Board

FIGURE 6/4D/82 - 10



Toledo 8203 - Weighing Unit

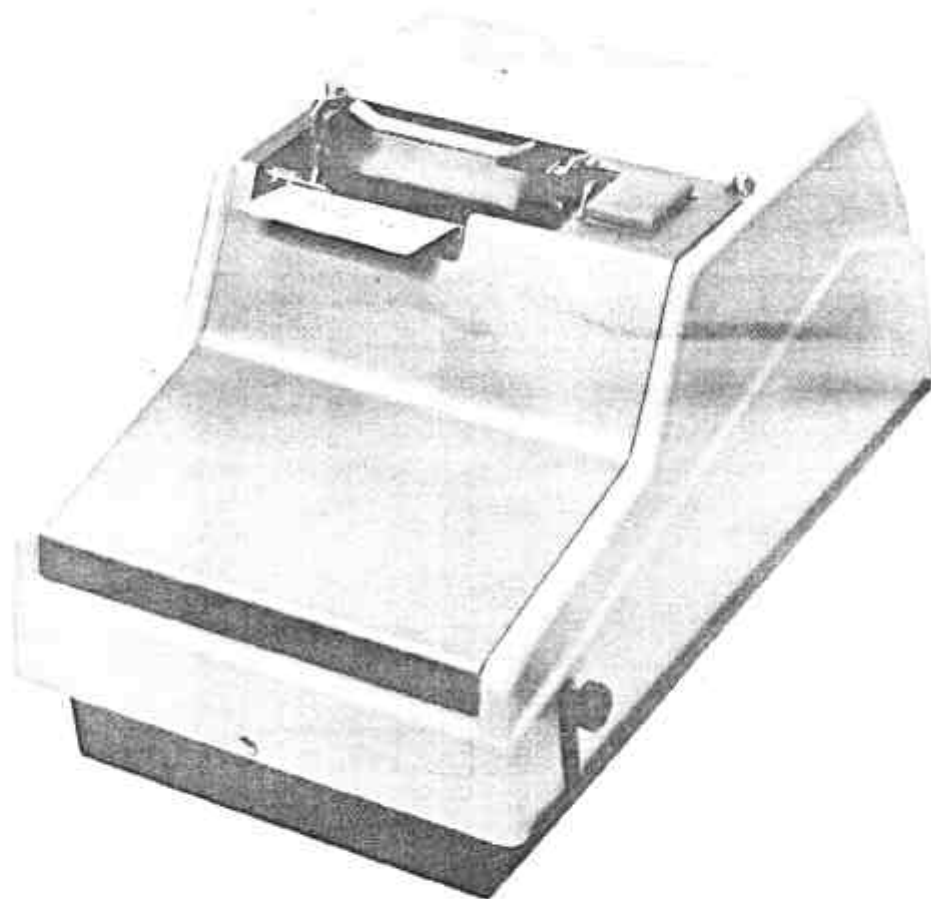
44/7/78

FIGURE 6/4D/82 - 11



Toledo 8203 — Weight-Indicator Unit

FIGURE 6/4D/82 - 12



Toledo 3000 Ticket Printer

31/7/79

FIGURE 6/4D/82 - 13

Product Information

NET kg	PRICE/kg	TOTALPRICE
	\$	\$

(a) Before printing

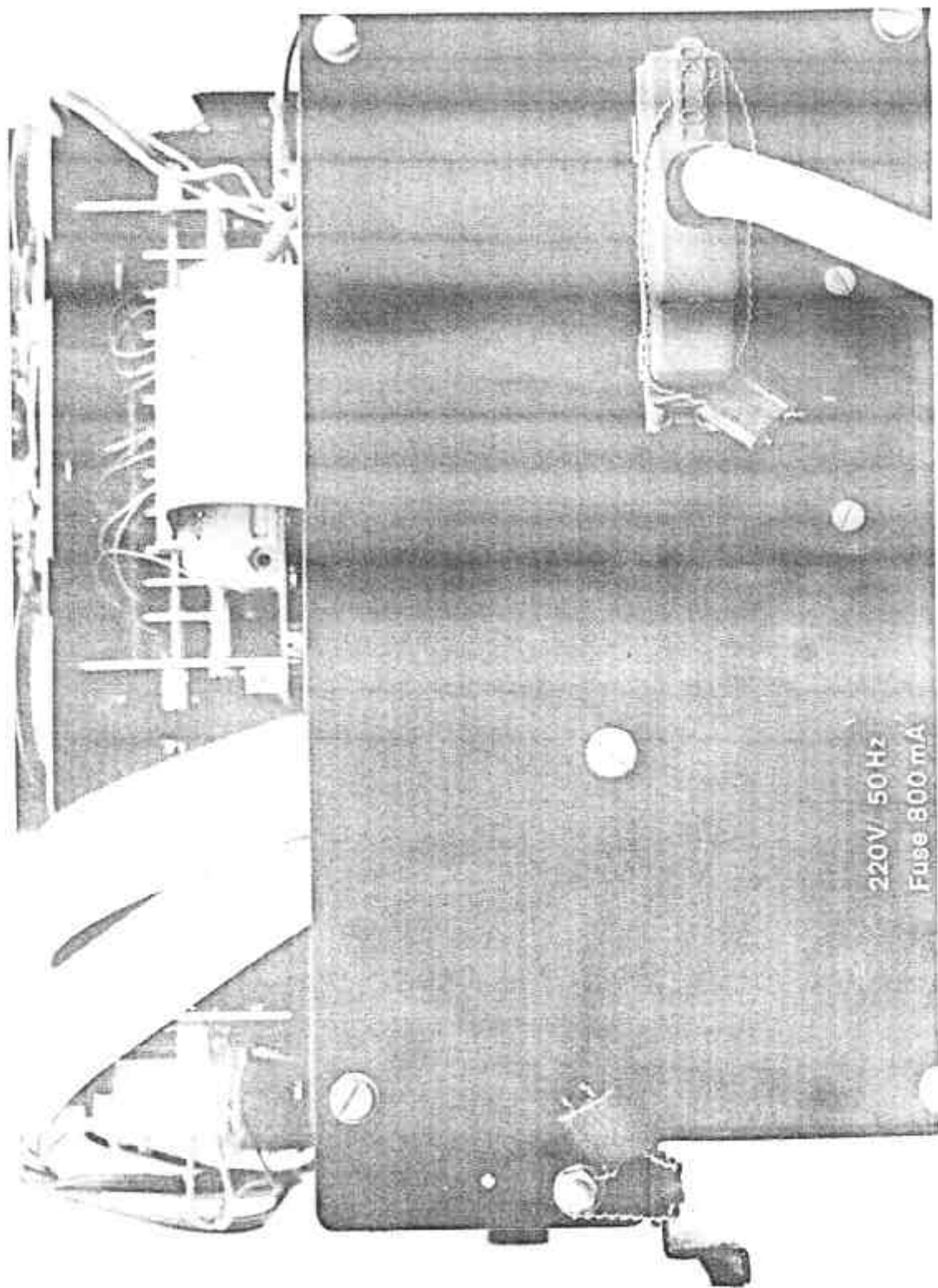
NET kg	PRICE/kg	TOTALPRICE
0.310	\$ 41.56	\$ 12.88

(b) After printing

Toledo 3000 Ticket Printer — Sample Label (actual size)

31/7/79

FIGURE 6/4D/82 - 14



Toledo 3000 Printer — Rear View showing Sealing of Cable and Printer

31/7/79