NATIONAL STANDARDS COMMISSION

WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/10B/45

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

Mercury Model RVB-H20 Weighing Instrument

submitted by Mercury Weighing And Control Systems Pty Ltd
32 Dew Street
Thebarton, South Australia, 5031

are suitable for use for trade.

The approval of the pattern and variants 1, 2 and 3 is subject to review on or after 1/6/87.

The approval of variant 4 is provisional.

Instruments purporting to comply with this approval shall be marked NSC No 6/10B/45.

The approval may be withdrawn if instruments are used other than as described in the drawings and specifications lodged with the Commission.

Conditions of Approval

1. The load cells to be used shall be subject to regular certification by the Commission.

2. Approval for variant 4 will remain provisional until a satisfactory site examination has been completed.

3. The submittor is to advise the Commission of the first installation of an instrument purporting to comply with provisional variant 4 before verification by the appropriate Weights and Measures Authorities is sought.

4. The submittor is to advise the Commission of the results of all verification tests of instruments purporting to comply with provisional variant 4.

Signed

Executive Director

Descriptive Advice

Pattern: approved 3/5/82

. A Mercury model RVB-H20 self-indicating weighing instrument approved with a maximum of 3000 scale intervals, of 60 t capacity with six HBM model C3H2-20 t load cells, a Mercury model 479 indicator and with a concrete deck.

Variant: approved 3/5/82

1. With or without subtractive tare.

Variant: provisionally approved 3/5/82 - approved 7/10/83

2. With a four load cell basework of 30 t capacity.

Technical Schedule No 6/10B/45 dated 28/5/82 describes the pattern and variants 1 and 2.

Variant: approved 25/10/82

3. The pattern and variants with alternative load cell mounting and a steel deck.

Technical Schedule No 6/10B/45 Variation No 1 dated 22/11/82 describes variant 3.

Provisional Variant: approved 7/10/83

4. With a four load cell basework of up to 50 t capacity.

Technical Schedule No 6/10B/45 Variation No 2 dated 28/10/83 describes provisional variant 4.

Filing Advice

Certificate of Approval No 6/10B/45 dated 22/11/82 is superseded by this Certificate and may be destroyed.

Amendment: The following should be added to the description of the basework given in paragraph 1.1 of Technical Schedule No 6/10B/45 dated 28/5/82:

" ... with a concrete deck."

The documentation for this approval now comprises:

Certificate of Approval No 6/10B/45 dated 28/10/83
Technical Schedule No 6/10B/45 dated 28/5/82
Technical Schedule No 6/10B/45 Variation No 1 dated 22/11/82
Technical Schedule No 6/10B/45 Variation No 2 dated 28/10/83
Test Procedure No 6/10B/45 dated 28/5/82
Figures 1 to 6 dated 28/5/82
Figures 7 to 9 dated 22/11/82.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/10B/45

Pattern: Mercury Model RVB-H20 Weighing Instrument

Submittor: Mercury Scale Company Pty Ltd,
32 Dew Street,
Thebarton, South Australia, 5031.

1. Description of Pattern

A self-indicating weighbridge of 60 t capacity comprising a six load cell basework and a digital indicator.

1.1 Basework

A six point mounting low profile basework.

1.2 Load Cells

Six HBM model C3H2-20 t load cells mounted as shown in Figure 1.

Each load cell is shaded from direct sunlight as shown in Figure 2.

With the sunshield removed, the nameplate is clearly visible.

1.2.1 Load Cell Connections

The cables from each load cell terminate in a sealed junction box (Figure 3). The cables from each junction box terminate in a sealed combining/summing unit (Figure 4).

The cable from the combining/summing unit is internally connected to the indicator.

1.3 Indicator

Mercury model 479 digital indicator similar to that shown in Figures 5 and 6, but without the taring device and GROSS/NET button.

1.3.1 Zero

A tool-operated zero may be used to set the instrument to within 0.25e of zero, indicated by the Zero light illuminating.

1.3.2 Display Check

A three position self-cancelling switch is used to test the displays as follows:

centre position:	normal indication
up position:	all segments illuminated
down position:	all segments blank

1.4 Marking

1.4.1 Instrument

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

Manufacturer's name or mark	
Serial number of instrument	
NSC approval number in the form:	NSC No 6/10B/45
Accuracy class in the form:	(III)
Maximum capacity in the form:	Max .....*
Minimum capacity in the form:	Min .....*
Verification scale interval in the form:	e = d = ...*

Note: In addition, load cell serial numbers are marked on a plate sealed to the instrument as described in paragraph 1.5.

1.4.2 Load Cells

Each load cell must be marked with the following data:

Manufacturer's name or mark	HBM
Model number	C3H2
Serial number	....
Output in the form:	2 mV/V
Maximum capacity	20 t

1.5 Sealing

(a) The indicator cover is sealed by a lead and wire seal with the wire passing through a retaining screw on each side of the indicator (Figure 6).

(b) The load cell serial numbers are on a plate sealed to the back of the indicator using the sealing screws described in (a).

(c) The cable from the combining/summing unit is internally connected to the indicator.

(d) The junction boxes are sealed as shown in Figure 3.

(e) The combining/summing unit is sealed as shown in Figure 4.

2. Description of Variants

2.1 Variant 1

With a non-automatic subtractive taring device, operated by using four thumbwheel switches (Figure 5), which allows a tare to be entered in 1e increments up to 3000e.

The instrument bears an additional marking in the form:

Maximum subtractive tare	T = - .....

2.2 Provisional Variant 2

With the basework of the pattern replaced by one of 30 t capacity using four HBM model C3H2-20 t load cells.

*These markings must be repeated in the vicinity of the reading face if not already there.

TEST PROCEDURE No 6/10B/45

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 attempt to set Zero; this should not be possible.

(b) Reduce the load to say 1.5%, and again attempt to set Zero; the instrument should indicate zero balance.

2. Zero Test

Check using Document 104 that when Zero is indicated, zero is set within 0.25e.

3. Range of Indication

(a) The maximum mass indicated should not exceed the maximum capacity (Max) by more than 10 scale intervals; above this indicated mass the indicator should be blank.

(b) Below zero the mass will be indicated, prefixed by a minus sign.

4. Taring

Attempt to tare a mass above maximum capacity. On removal of the mass no 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.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/10B/45

VARIATION No 1

Pattern: Mercury Model RVB-H20 Weighing Instrument

Submittor: Mercury Scale Company Pty Ltd
32 Dew Street
Thebarton, South Australia, 5031.

1. Description of Variant 3

The pattern or variants with the load cells mounted as shown in Figures 7 to 9, and with a steel deck.

22/11/82

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/10B/45

VARIATION No 2

Pattern: Mercury Model RVB-H20 Weighing Instrument

Submittor: Mercury Weighing And Control Systems Pty Ltd
32 Dew Street
Thebarton, South Australia, 5031.

1. Description of Provisional Variant 4

With the basework of the pattern replaced by one of up to 50 t capacity using four HBM C3H2 20 t load cells and having a steel or concrete deck.

(Refer to Conditions of Approval).

28/10/83

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NATIONAL STANDARDS COMMISSION

CANCELLATION CERTIFICATE FOR APPROVAL No 6/10B/45

This is to certify that Approval No 6/10B/45 for the pattern of the

Mercury Model RVB-H20 Weighing Instrument

submitted by Mercury Weighing And Control Systems Pty Ltd
32 Dew Street
Thebarton, South Australia, 5031

expired in respect of new instruments on 30/1/84.

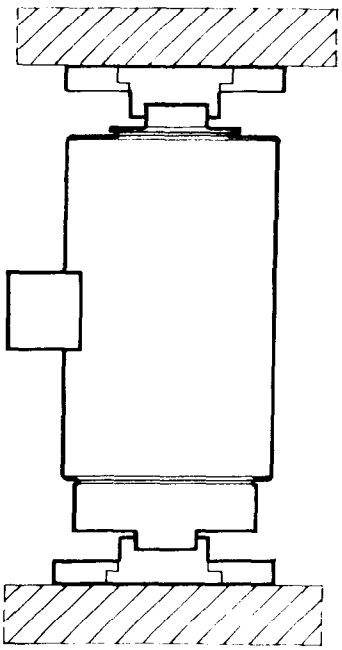
Instruments which were verified before that date may, with the concurrence of the relevant verifying authority, be submitted for reverification.

Signed

Executive Director

30/1/84

FIGURE 6/10B/45 - 1



Load Cell Mounting - Schematic Diagram

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FIGURE 6/108/45 - 2

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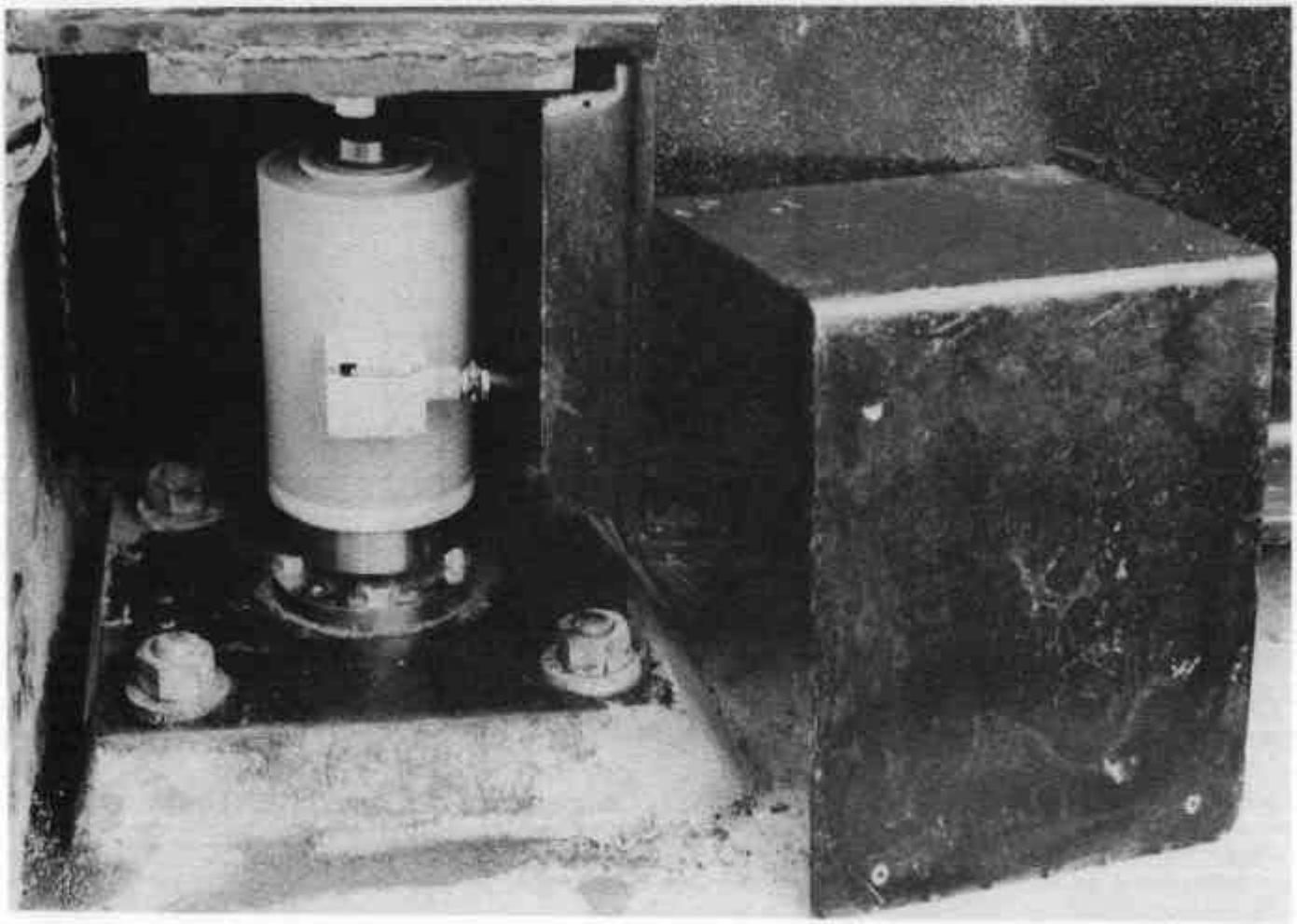
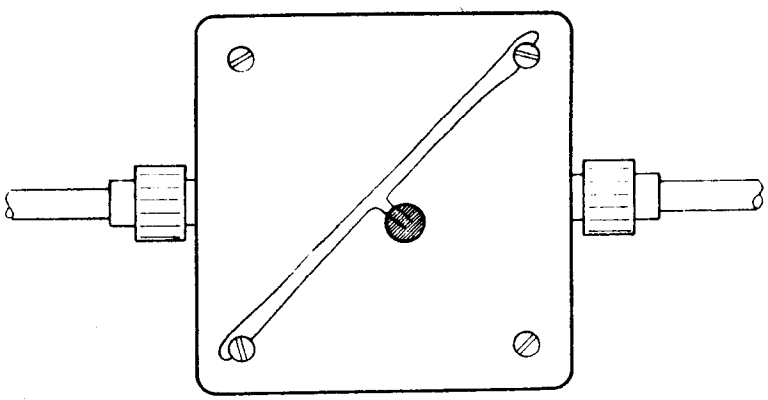


Load Cell With Sunshield Removed

FIGURE 6/10B/45 - 3



Junction Box Sealing Provision

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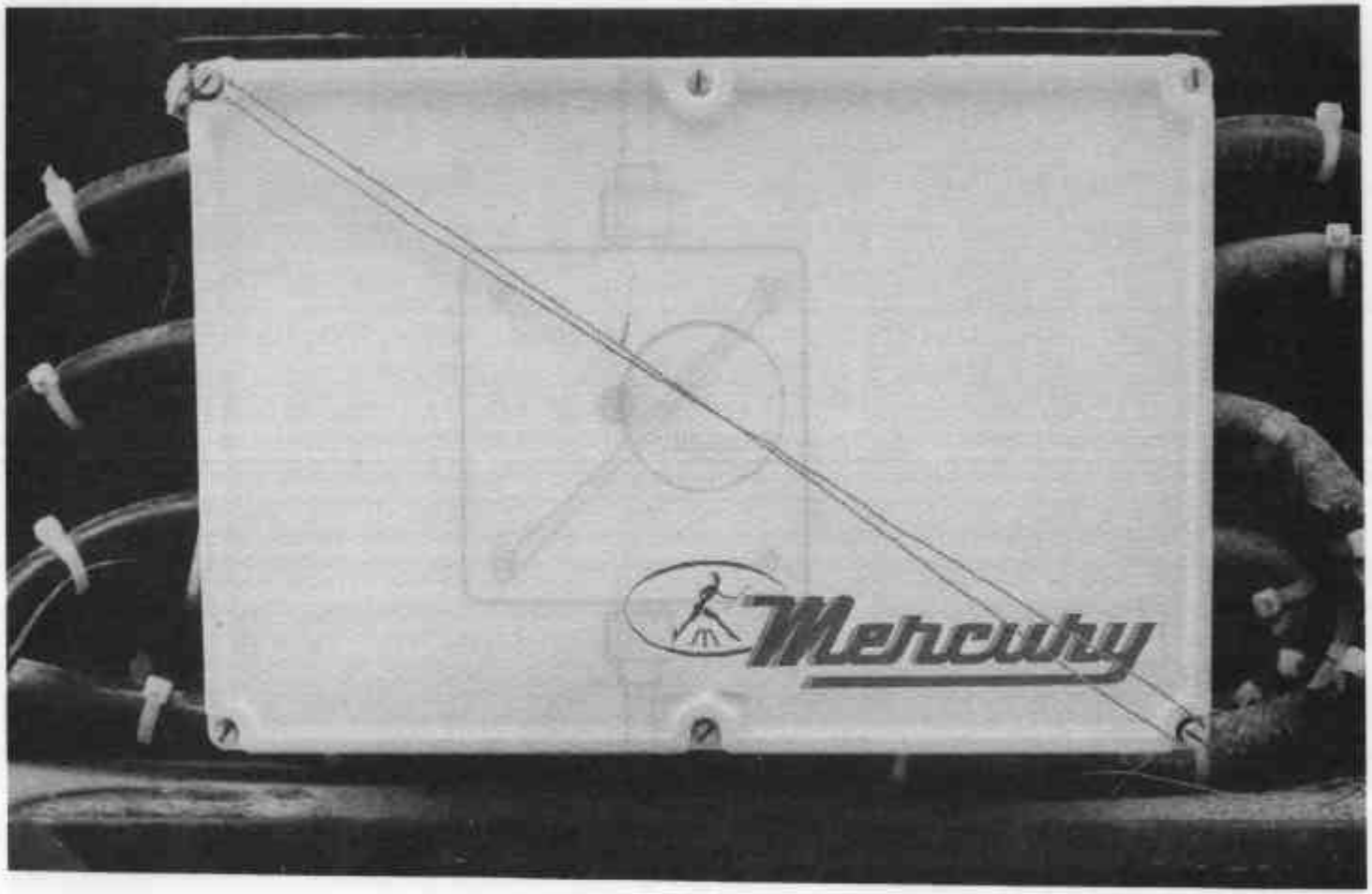
FIGURE 6/108/45 - 4



Combining/Summing Unit Sealing Provisi

FIGURE 6/108/45 - 5

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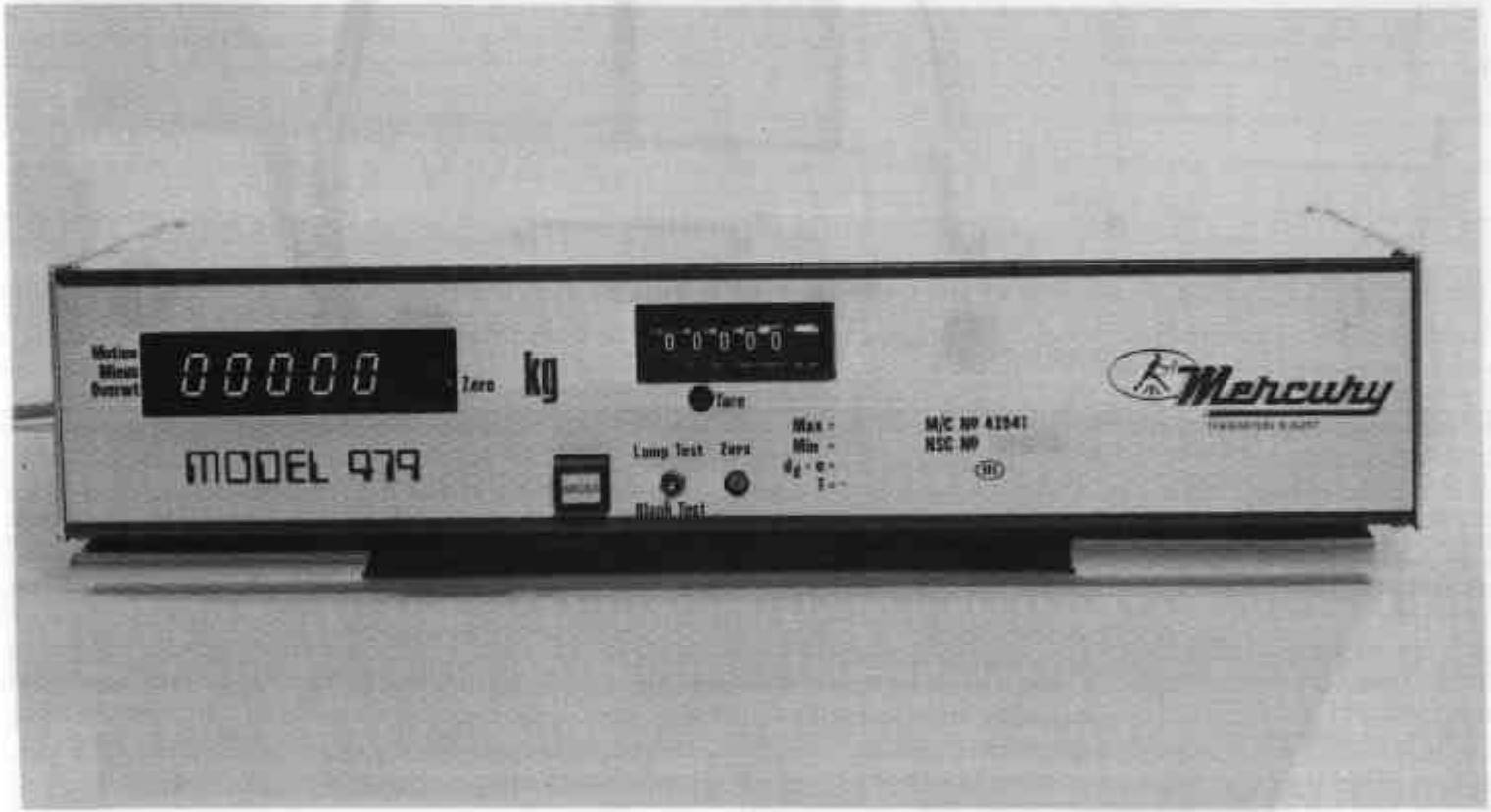

Indicator Model 479, With Tare

FIGURE 6/108/45 - 6

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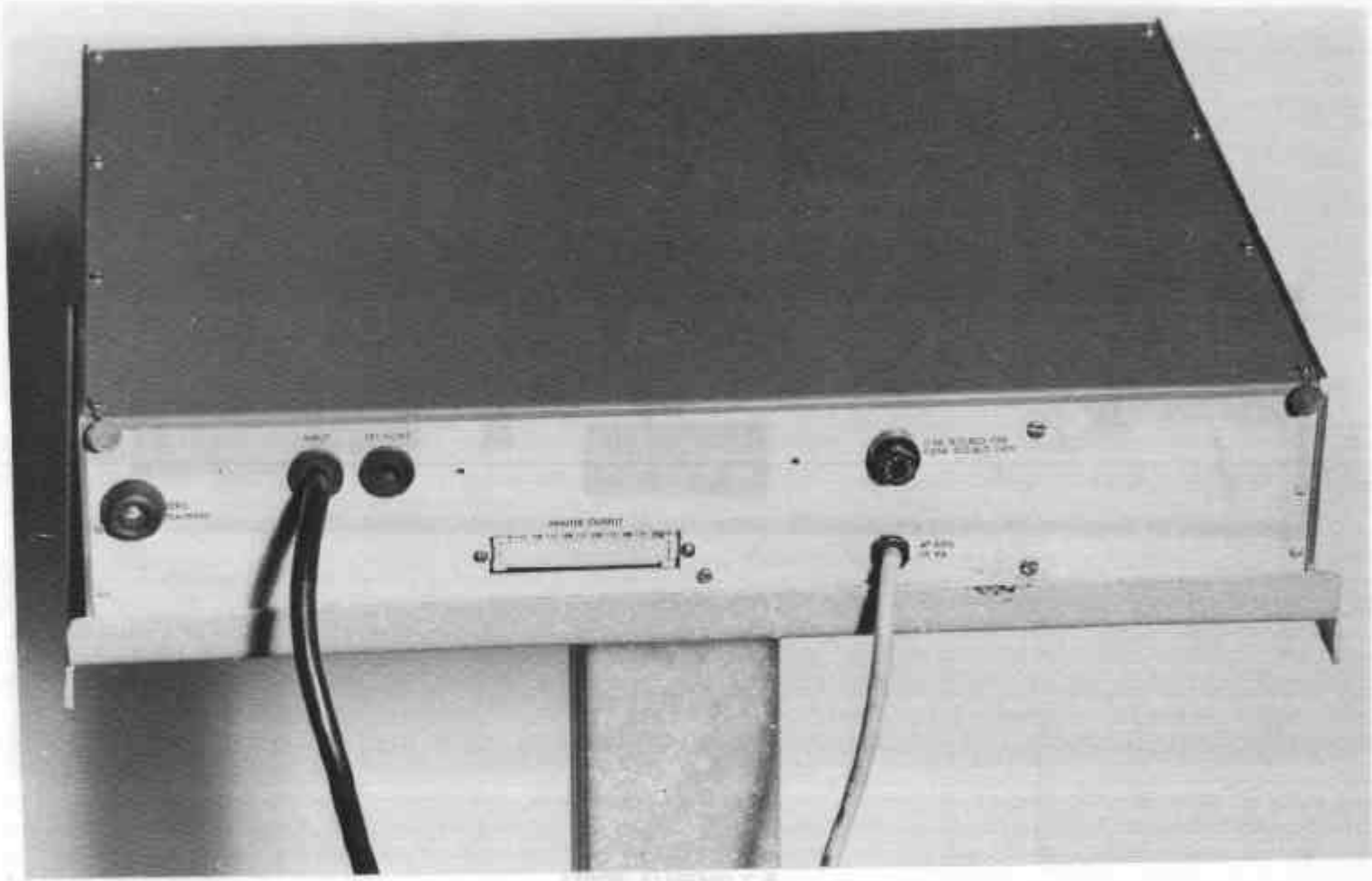
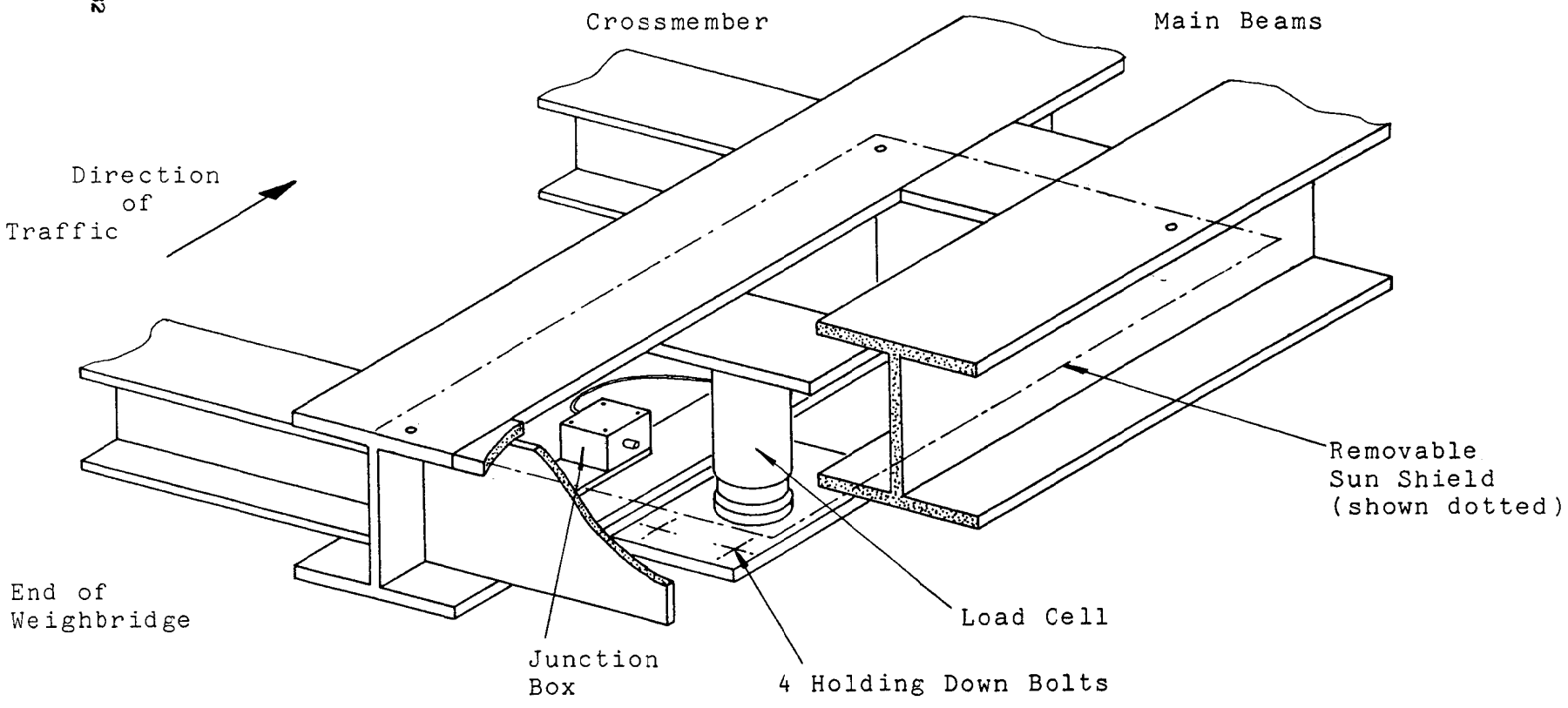
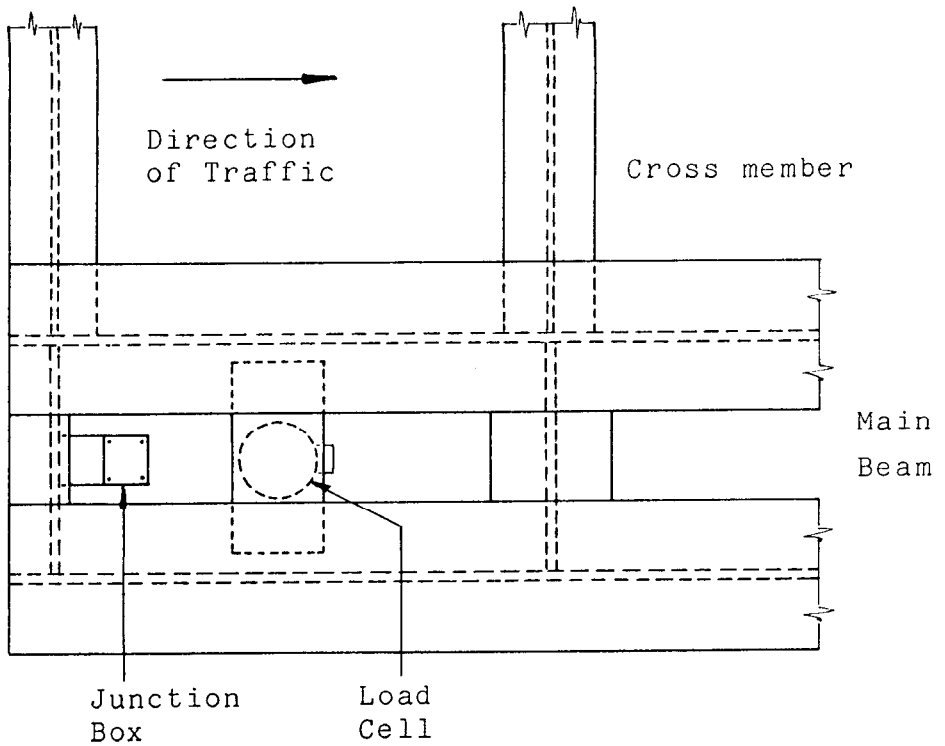


Indicator Model 479 - Rear View Showing S ling

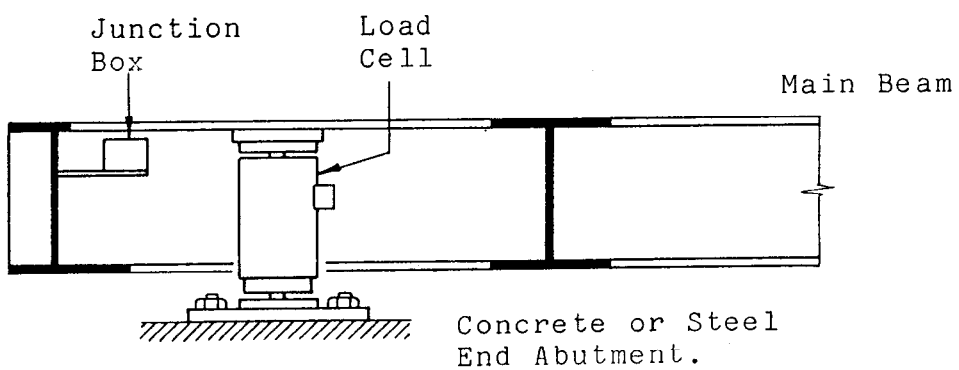
22/11/82



Schematic Showing Steel Deck Construction



P L A N



ELEVATION

Schematic Showing Locations Of Junction Box And Load Cell
(Sun Shield Not Shown)

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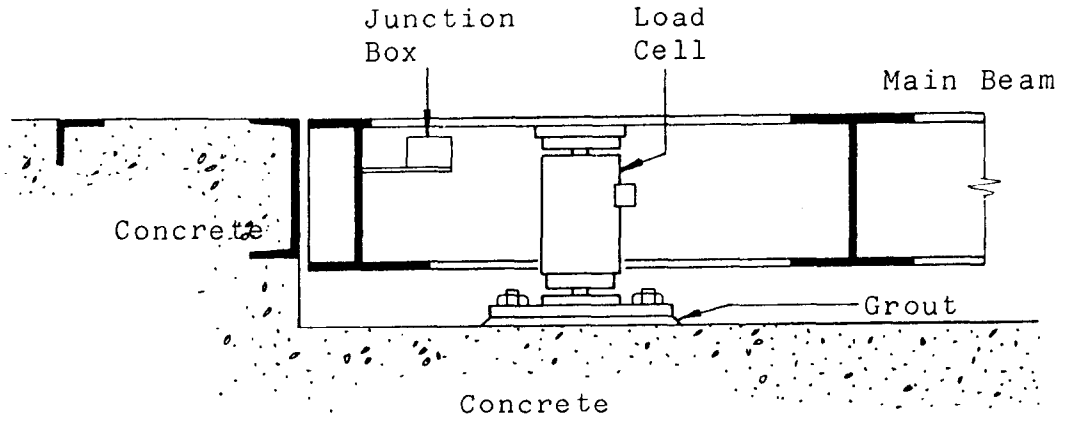
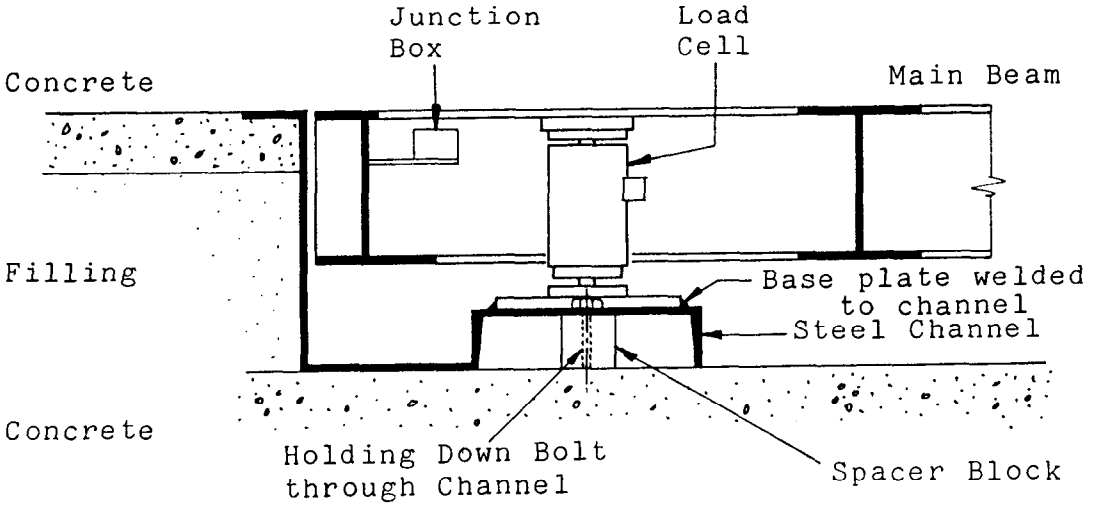
FIGURE 6/10B/45 - 9



CONCRETE END ABUTMENT



STEEL END ABUTMENT

Schematic Showing Alternative End Abutments

22/11/82