6/10B/76
13 April 2011

Australian Government
National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Cancellation

Certificate of Approval

No 6/10B/76

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that the approval for use for trade granted in respect of the

MWB Model M30T/3090 Weighing Instrument

submitted by Mobile Weighbridge Sales Limited
15 Farnham Street
Parnell Auckland 1
NEW ZEALAND

has been cancelled in respect of new instruments as from 1 May 2011.

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

6/10B/76
22 January 2004

Australian Government

National Standards Commission

12 Lyonpark Road, North Ryde NSW 2113 Australia

Certificate of Approval

No 6/10B/76

Issued under Regulation 60
of the
National Measurement Regulations 1999

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

MWB Model M30T/3090 Weighing Instrument

submitted by Mobile Weighbridge Sales Limited
15 Farnham Street
Parnell Auckland 1
NEW ZEALAND.

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

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CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 December 2008, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No 6/10B/76 and only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the Commission and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with the Commission's Document NSC P 106.

The Commission reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

The pattern as approved herein or with substitute Commission-approved load cells and/or indicators and in other capacities and configurations, shall comply with General Certificate No 6B/0.

Note: New instruments manufactured under this approval shall only use load cells and/or indicators with current NSC supplementary certificates.

The values of the performance criteria (maximum number of scale intervals etc.) applicable to the instrument shall be within the limits specified herein and in any approval documentation for the components where they are approved separately.

DESCRIPTIVE ADVICE

Pattern: approved 28 November 2003

- An MWB model M30T/3090 self-indicating weighing instrument of 30 000 kg maximum capacity.

Technical Schedule No 6/10B/76 describes the pattern.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 6/10B/76 dated 22 January 2004
Technical Schedule No 6/10B/76 dated 22 January 2004 (incl. Test Procedure)
Figures 1 to 3 dated 22 January 2004

Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.

TECHNICAL SCHEDULE No 6/10B/76

Pattern: MWB Model M30T/3090 Weighing Instrument.

Submittor: Mobile Weighbridge Sales Limited
15 Farnham Street
Parnell Auckland 1
NEW ZEALAND

1. Description of Pattern

An MWB model M30T/3090 self-indicating weighing instrument of 30 000 kg maximum capacity and approved for use with up to 3000 verification scale intervals.

1.1 Basework

The model M30T/3090 basework has the platform fully supported by 4 load cells. Dimensions of the platform are 9.0 m x 3.0 m. Restraints incorporating rod end bearings are provided at both ends of the weighbridge to restrain the platform horizontally.

1.2 Load Cells

Four Precision Transducers model HPC-30 load cells of 30 000 kg capacity are used.

The load cells are also described in the approval documentation of NSC approval No S412.

1.3 Indicator

An A & D model AD-4329 digital indicator is used.

The indicator is also described in the approval documentation of NSC approval No S387.

1.4 Special Features – mobile weighbridge

The instrument is designed as a mobile weighbridge (Figures 1 and 2). The weighbridge may be fitted with wheels, and may have towing attachments for relocation of the weighbridge by towing behind a motor vehicle.

(i) Levelling Arrangements

The weighbridge frame (on which the load cells are located and which in turn support the weighbridge platform) is supported by four hydraulic levelling jacks. A motor, alternator and control unit are incorporated within the weighbridge to provide power for the instrument and operate the hydraulic jacks.

The hydraulic levelling jacks enable the instrument to be levelled. The control unit provides a signal to a green light indicating “Level – Weigh” condition when the instrument is in a level condition suitable for operation, and a red light indicating an “Out Of Level” condition. The level condition of the instrument is sensed and interlocks are provided so that printing and indication is prevented whenever the instrument is not in a suitably level condition.

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The level sensing is carried out by using a Roman level principle as described below:

- Four stainless steel tanks are provided (Figure 3) one located at each corner of the weighbridge; these are connected via stainless steel pipes all filled with a special leveling fluid.
- Each tank has a plastic float inside, connected to an Omron Electronics model E6C2-A Absolute Rotary Encoder via a stainless steel shaft.
- The encoders are connected to a programmable logic controller (within the control unit) which determines the liquid levels in each tank and hence the level condition of the weighbridge.
- When the instrument is in the 'OFF' mode the level system is completely sealed (using solenoid valves) to prevent liquid loss during transportation.

(ii) Other Arrangements

Note:

State and Territory Trade Measurement Legislation may require particular arrangements regarding weighbridges (such as approaches and location of the weighbridge platform and indicator) to be met. This approval does not certify that such requirements have (or can be) met.

In addition State and Territory Trade Measurement Authorities should be consulted regarding any special arrangements which may be necessary in regard to operation of a mobile weighbridge of this type. Issues such as the following may need to be considered:

(a) Approaches & Ramps

Portable steel ramps are provided to enable access to the weighbridge platform. Additional ramps or horizontal attachments may be necessary to provide suitable approaches to the weighing platform.

(b) Stability of Ground

It is important that the sole plates of the levelling jacks are located on surfaces with adequate load bearing capability. This is to prevent ground penetration, and to provide sufficient stability (avoiding excessive ground compaction or subsidence). Suitable metal plates or timber boards shall be used to distribute the load, when necessary.

(c) Gravity Variation

Where the instrument is certified/verified in one location and subsequently moved to another location the effects of differences in gravity at each location may need to be considered.

1.5 Sealing Provision

Provision is made for the calibration adjustments in the indicator to be sealed as described in the approval documentation for the indicator used.

1.6 Markings

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Mobile Weighbridge Sales Limited
Indication of accuracy class	(III)
Pattern approval mark for the instrument	NSC No 6/10B/76
Pattern approval mark for the indicator	NSC No S…
Pattern approval mark for the load cells	NSC No S…
Maximum capacity	*Max* ..... kg *
Minimum capacity	*Min* ..... kg *
Verification scale interval	*e* = ... kg *
Serial number of the instrument	.....

* These markings shall also be shown near the display of the result if they are not already located there.

1.7 Verification/Certification Provision

Provision is made for the application of a verification/certification mark.

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

Maximum Permissible Errors at Verification/Certification

The maximum permissible errors for increasing and decreasing loads on initial verification/certification for loads, m, expressed in verification scale intervals, *e*, are:

±0.5 *e* for loads $0 \leq m \leq 500$;
±1.0 *e* for loads $500 < m \leq 2\,000$; and
±1.5 *e* for loads $2\,000 < m \leq 10\,000$.

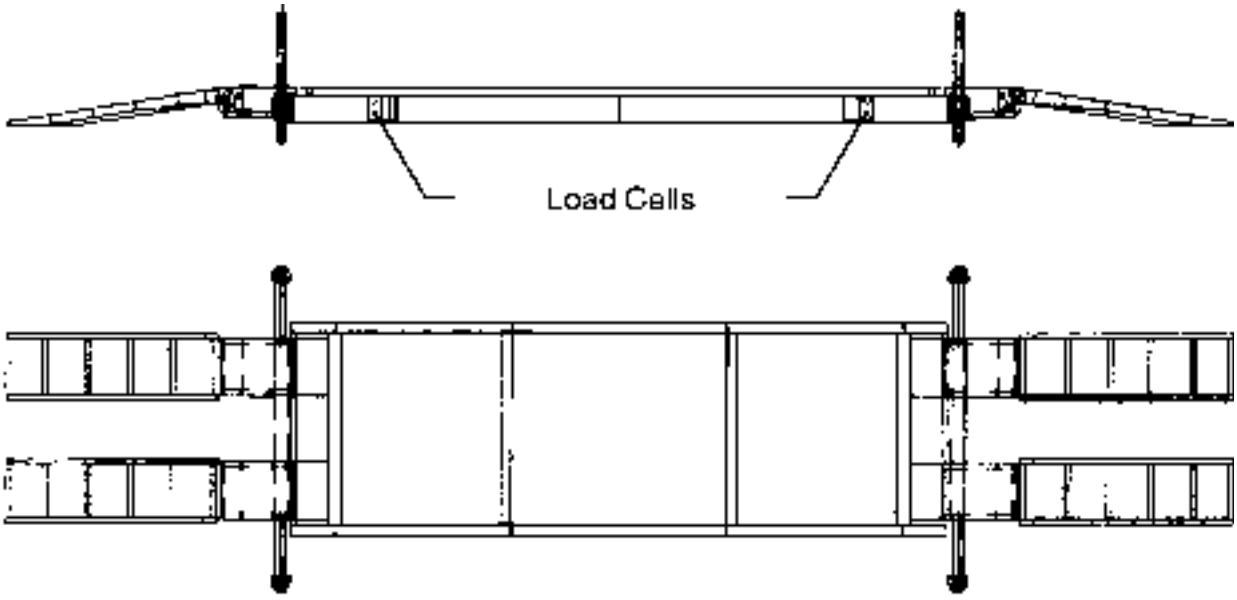
Special Tests Relating to Levelling

For instruments which incorporate special features described in clause **1.4 Special Features – mobile weighbridge** of the pattern, additional checks may be carried out by verifiers/certifiers to ensure that the levelling features are operational, e.g. that the "Level – Weigh" light is off when the weighbridge is not level.

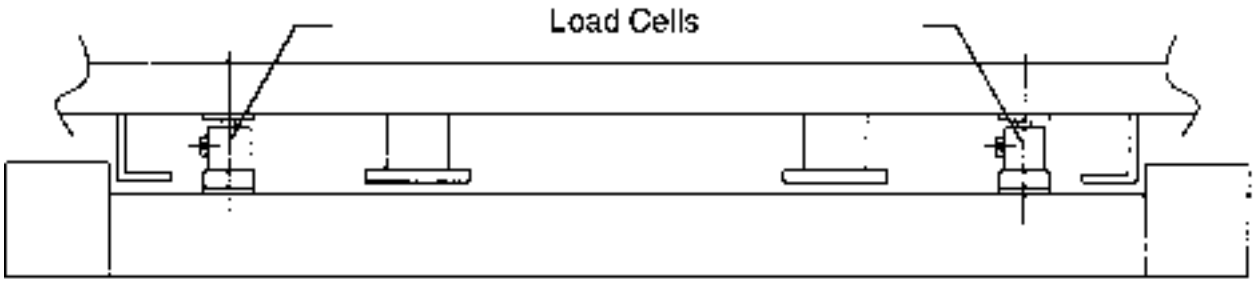
FIGURE 6/10B/76 – 1

MWB Model M30T/3090 Weighing Instrument

FIGURE 6/10B/76 – 2



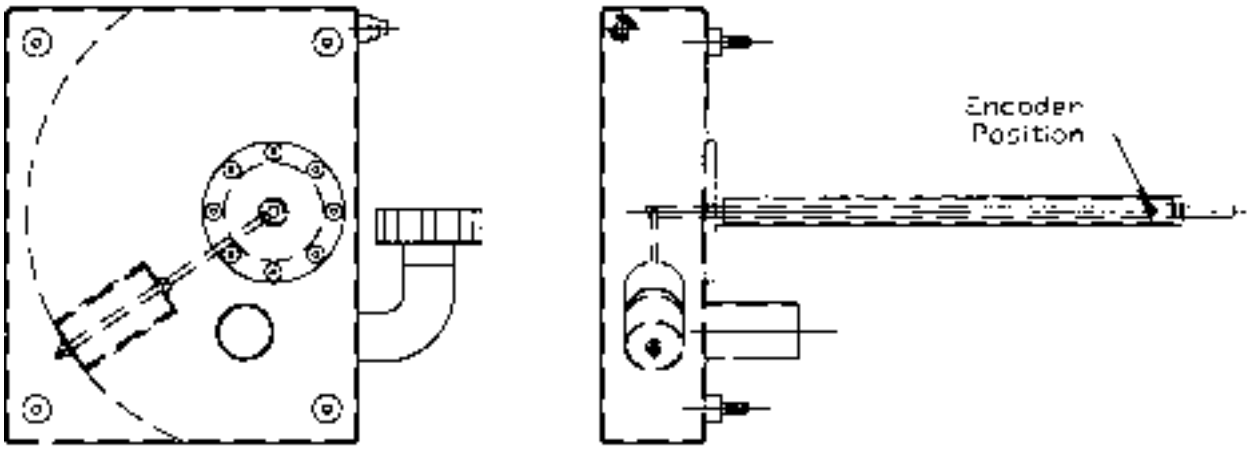
Side and Plan Views



Cross-section Through Load Cell Location

MWB Model M30T/3090 Basework

FIGURE 6/10B/76 – 3



Level Sensing Tank