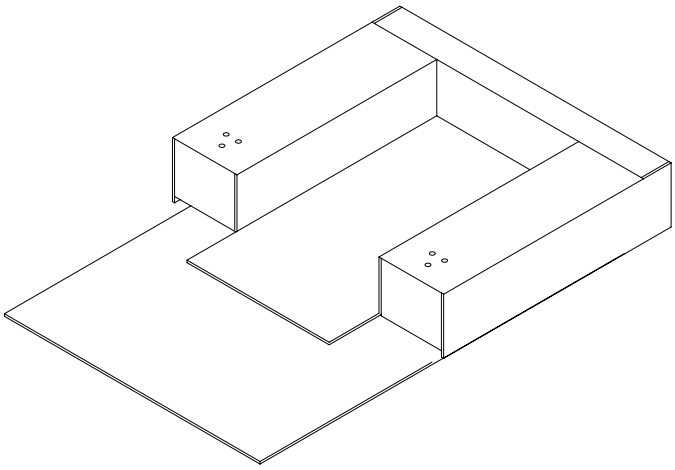
MPWS SERIES

INSTRUCTION MANUAL

MULTI POINT WEIGHING SYSTEM (MPWS)



A&D Company, Limited

MPWS-IM : 09032006

Welcome !

Thank You for purchasing your new A&D Mercury Multi Point Weighing System (MPWS)

The MPWS is the product of years of design, development, and infield testing. It is designed to withstand harsh environmental conditions and each MPWS is subjected to several levels of quality control before it leaves the factory. Every care has been taken during the manufacturing process of the MPWS to ensure that it will perform accurately and reliably for many years.

Features

- Trolley Design: simple to move, no strain of staff
- Simple Set-Up: 4 pads receive the bed castors
- Ramp Style Weigh Pads: little effort required
- Stainless Steel Construction: clinical & hgienic
- 450kg Capacity – 100 gram Accuracy
- Simple Connection & Operation: colour coded
- Battery Operated: maximum portability
- Totally Flexible: any bed length or width

Notes !

This is a hazard alert mark.

This mark informs you about the operation of the product.

This manual is subject to change without notice at any time to improve the product. No part of this manual may be photocopied, reproduced, or translated into another language without the prior written consent of the A&D Mercury.

Product specifications are subject to change without any obligation on the part of the manufacturer.

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INSTALLATION
and
POWER SUPPLY

Installation and Power Supply

Installation

The MPWS indicator is a precision electronic instrument and requires careful handling.

The operating temperature range is –5°C to +40°C. It should be installed where it will not be exposed to direct sunlight.

The MPWS Indicator must be kept away from electrical noise sources since only an extremely weak voltage is produced as the load cell output, and the cable connected to the MPWS Indicator is affected by noise sources which include pulse components.

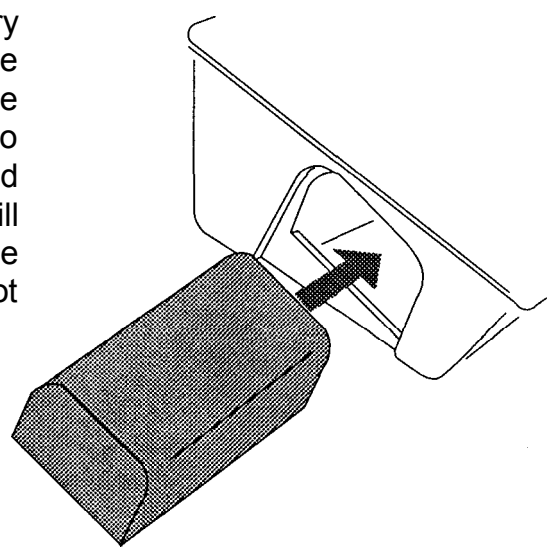
Power Supply

- When the AC adapter is used

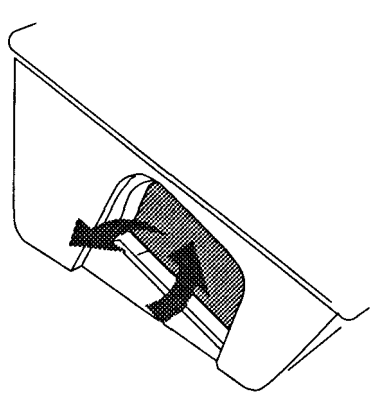
  A stable power source must be used, since an unstable power source which includes an instantaneous noise component may result in misoperation.

- When dry batteries are used

  Use fresh batteries, preferably alkaline type. Insert the batteries into the battery box (use caution in inserting to match the polarity of the batteries), and insert the battery box as shown with the contacts to the inside of the indicator. Push it in and towards the bottom. The battery box will hook onto the edge of the case. Install the cover over the battery box so that it will not fall out.



To remove the battery box, press in and up on the end of the battery box. Slowly release pressure on the battery box while holding it against the top of the battery compartment and the battery box will slide out.



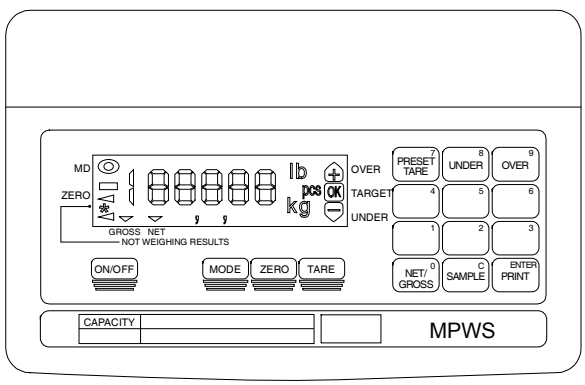
The Optional AD-1681 re-chargeable battery pack can be used in place of the standard battery box.

DESCRIPTION of PANEL

Description of Panels

Front Panel

MPWS INDICATOR



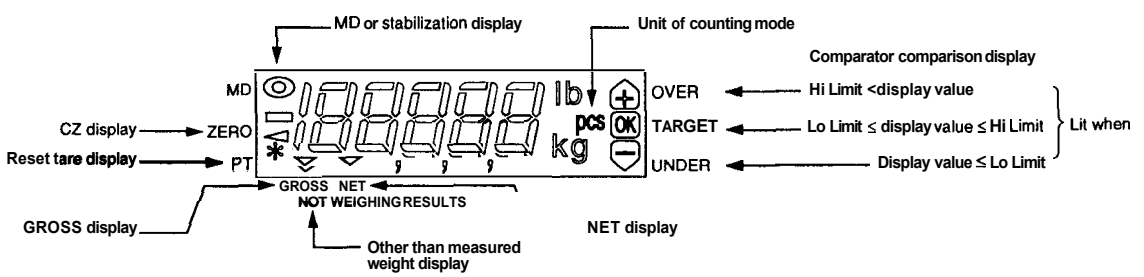
TOP VIEW

Key

ON/OFF	Turns power on/off.
MODE	Switches the unit. (See "Unit Switching"(pg. D-3))
ZERO	Sets the zero point. (See "Zero"(pg. D-2))
TARE	Sets the tare. (See "Tare Deduction"(pg. D-2))
GROSS/ NET	Switches between gross weight and net. (See "Gross Weight ↔ Net Weight Display Switching"(pg. D-3))
PRINT ENTER	Outputs data to a peripheral device such as a printer. Saves the input data.
TARE SETTING	Sets the preset tare. (See "Tare Deduction Using Numeric Keys"(page D-3))

1 ~ 6	Numeric keys, 1 to 6
7 P. TARE	Used to input the preset tare value. Also used as numeric key 7.
8 UNDER	Used to input the Target LO Limit. Also used as numeric key 8.
9 OVER	Used to input the Target HI Limit. Also used as numeric key 9.

Display Unit



Weight over display

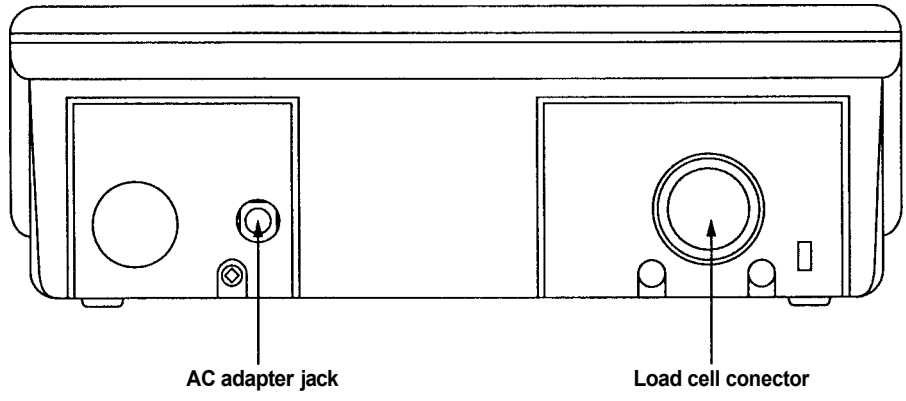
Plus over	When the GROSS data is greater than the capacity data plus 9 digits, display is blank.
Minus over	When the measurement data is minus over or the GROSS data is smaller than the calibration zero data minus 20% of the capacity data. The numerical display will blank, leaving only the minus sign.

However, the unit, GROSS, NET and other annunciators are left. Also, when the comparator is operating, the comparison result is OVER or UNDER.
In the case of OVER, the weighing result output is replaced with spaces.

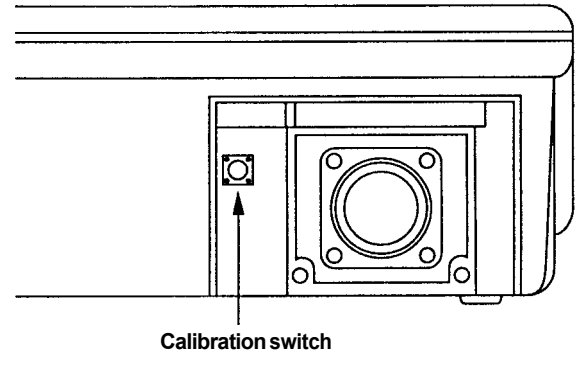
Rear Panel

- ❑ **Calibration switch** — **Used for calibration and some function settings**
- ❑ **Load cell connector** — **Connects to the load cell cable.**
- ❑ **AC adapter jack** — **Used** toConnect **the AC adapter.**

With cover



Without cover



BASIC OPERATION

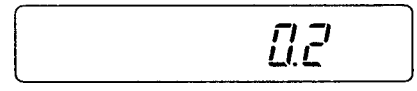
Basic Operation

Zero

If the zero point has drifted, pressing [ZERO] will correct it.
Normally this is only valid when the instrument is stabilized.

- In case of gross weight display

Zero point has drifted



Press the [ZERO] key

Tare Deduction

Weights for which tare deduction can be performed are 1 division more or less than or equal to the maximum capacity.
If 30.0 tare deduction is performed when the maximum capacity is 300.0, the weighable net weight is 270.0. When tare deduction is performed, the display automatically changes to the net weight display. Normally, the [TARE] key is only valid when the instrument is stabilized.

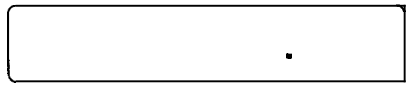
Tare Deduction Using [TARE] Key (One-Touch Tare Deduction)

- ❑ Place the tare weight on the weighing platform
- ❑ Press [TARE]. The weight display changes to net weight.

Tare Deduction Using Numeric Keys (Digital Tare Deduction)

❑ Press [PRESET TARE].

← When preset tare has been input



← When preset tare has not been input
In case of tare by one-touch tare deduction

❑ For example, for a tare deduction of 10.5, input [1],[0],[5]. The decimal point is fixed. (If you make a mistake, press [SAMPLE] and the value prior to setting will be returned; you can then set the value again.)

Press [ENTER], and the display changes to the net display.

Tare Clearance

If the [TARE] key is pressed when the balance is at the zero point, the tare will be cleared. The WSC Indicator tare can also be cleared by inputting 0 in preset tare deduction.

Gross Weight Display ↔ Net Weight Display Switching

Pressing the [NET/GROSS] key switches between gross weight display and net weight display. However, the display does not switch to net weight if the tare has been cleared.

Unit Switching ([MODE] Key)

Pressing the [MODE] key changes the unit. The WSC Indicator Hi/Lo target setting is also performed here.

[MODE] Kg [MODE] PCS [MODE] - +

SPECIFICATIONS

Specifications Section E

A/D Conversion Unit

Input sensitivity	0.2μV/dmin (d = minimum division)
Input signal range	–1 mV to 15mV
Load cell applied voltage	5VDC±5% (with remote sensing)
Load cell drive capacity	Max 6 units with 350 Ω load cell (max 90mA)
Zero point temperature coefficient	±(0.2μV±0.0008% of zero adjustment voltage) / °C(TYP.)
Span temperature coefficient	±8ppm/°C of rdg (TYP.)
Non-linearity	0.01% of F.S.
Maximum input noise	±0.2 μ V p-p
Input impedance	10MΩ or more
AID conversion method	Integral type
Maximum display resolution	10000d (divisions)
A/D conversion speed	Approx. 5 times/sec (same for display update)

Front Panel

7-segment liquid crystal display, character height: 22mm
Selection of g, kg or t, lb or lb/kg; and pcs (number of items)

General Specifications

Power supply	AC adapter or 6 "C" size batteries
Weight	750g (approximately, excluding batteries)
Operating temperature range	–5°C to 40°C
Operating humidity range	85% RH or less (no condensation)
External dimensions	See dimensions on page 1-3

Options

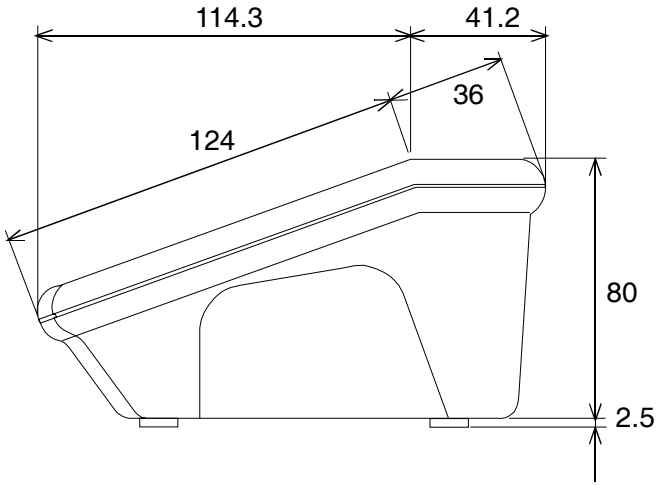
OP-03	RS-232C interface
OP-04	RS-232C interface + comparator relay output
OP-05	Printer interface (20mA current loop)
AD-1681	Rechargeable NiCd Battery Pack

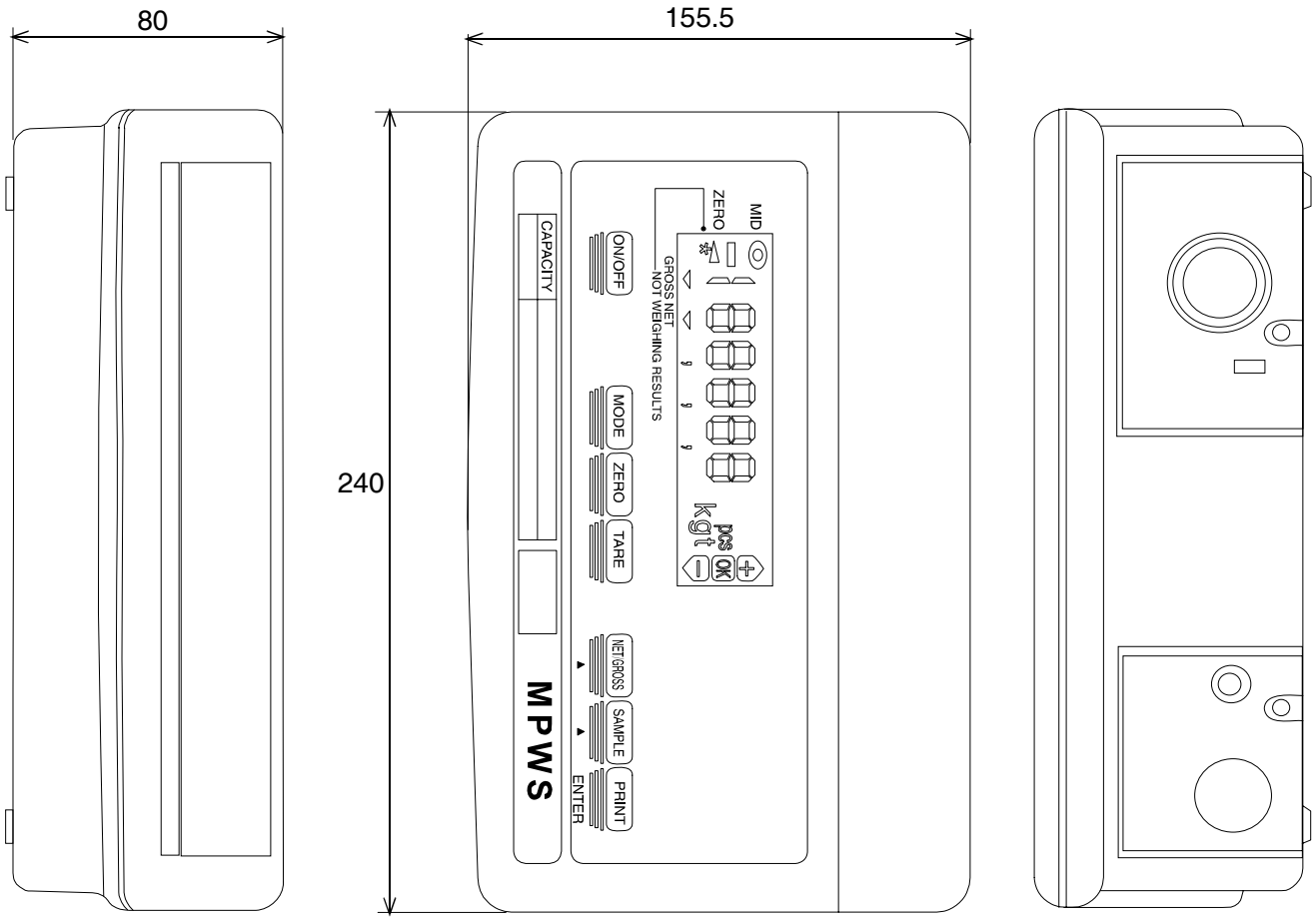
Accessories

Load cell connector	1 (NJC-207-PF)
AC adapter	1
Maximum capacity nameplate	1
Instruction Manual	1
Battery box	1

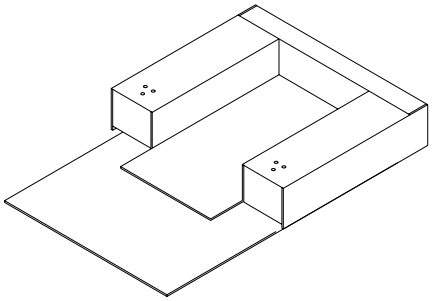
DIMENSIONS

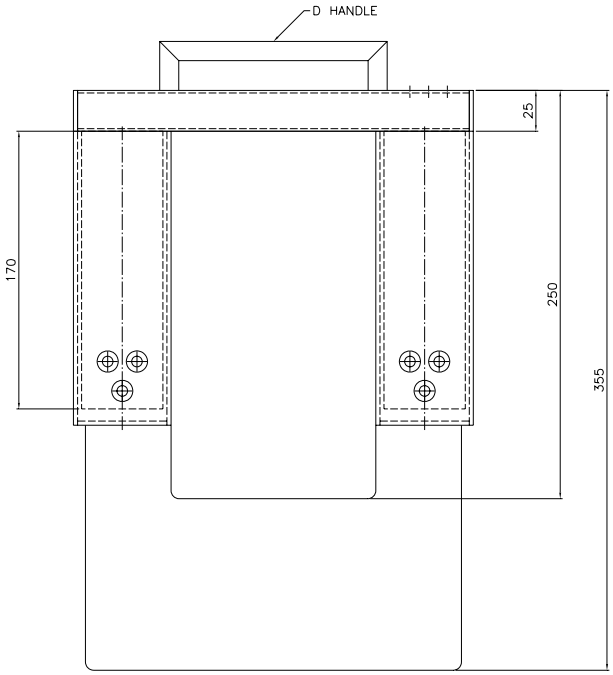
Dimensions Section F

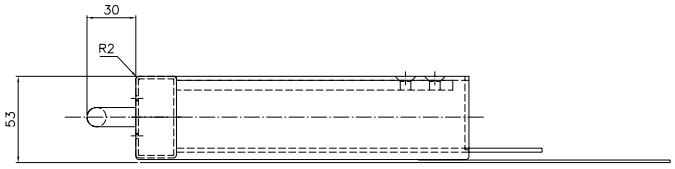


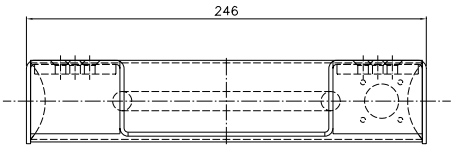


Dimensions Section F







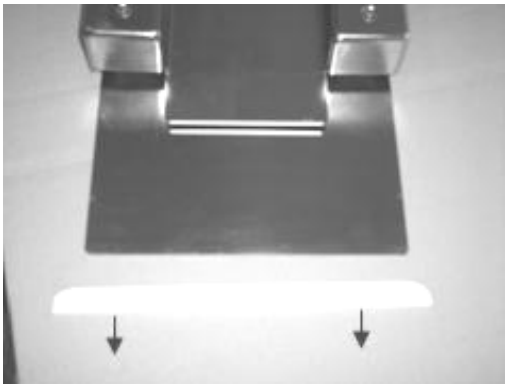


SETUP and TRANSPORTING

STEP 1 Remove Weigh Pads
Slide forward and swing pad up and over the storage bracket.

STEP 2 Transporting Weigh Pad
Hold weigh pad using the handle at the rear of the weigh pad.

STEP 3 Remove Safety Strip
Slide the white safety strip away from the weigh pad. Notice: Safety strip must be fitted at all times when handling weigh pads.



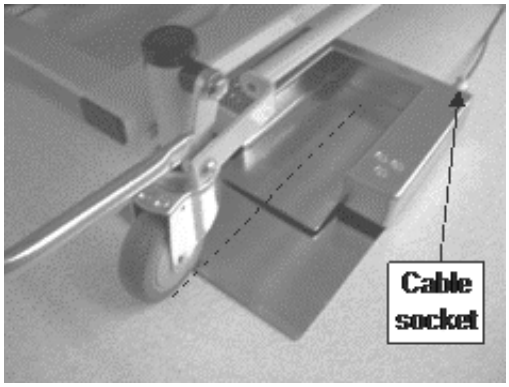
STEP 4 Setting the Bed Position
Place the bed approximately 400mm in front of the final position required for the bed.

Standing at the foot of the bed, push the bed forwards about 100mm to set the castors in the correct position

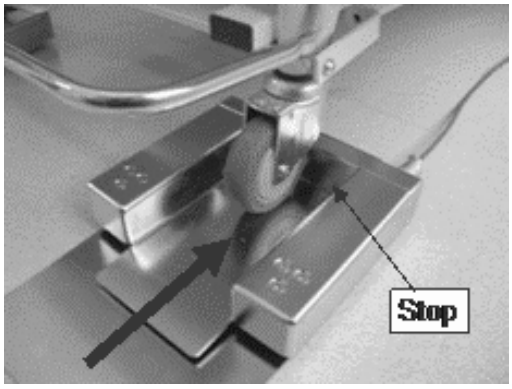
Place weigh pads behind each castors centrally so the castor will run up the ramp of the weigh pad.

Repeat step 4 for each castor.

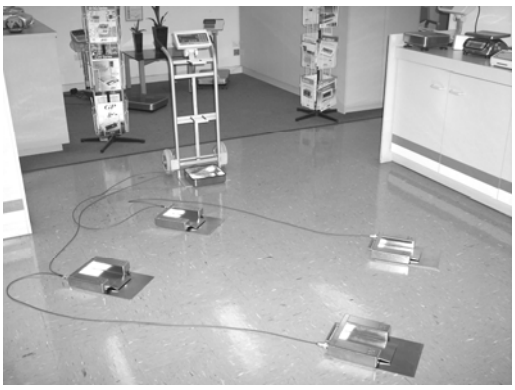
Notice: *It is best to have all the cable sockets on the outside of the bed.*



STEP 5 Position Bed on Weigh Pads
Standing at the foot of the bed push the bed forwards so the castors run ap and over the ramp.
Check: Check each weigh pad to ensure that the castors are sitting as far forward as possible.

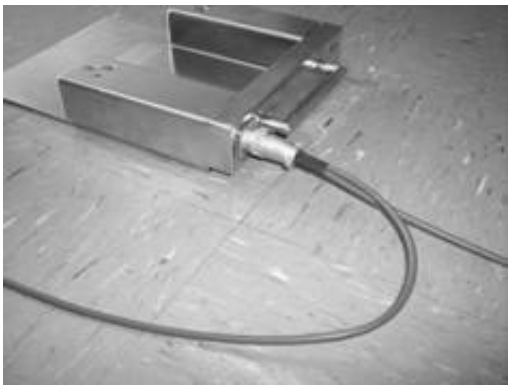


STEP 6 Lay out cables
Position the trolley on either side of the bed. Roll out the two cables, one for the left side the other for the right side.
Notice: either cable can be used for the right or left sides. Bed has been deleted from the picture.

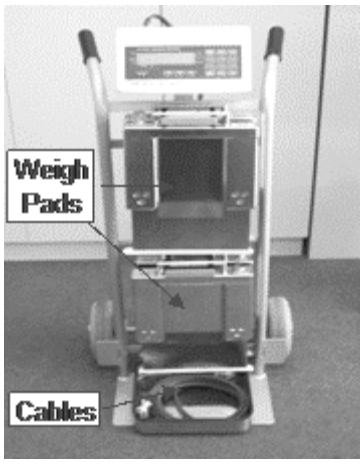


STEP 7 Connecting the Cables
Connect cable to the weigh pad.
Notice: It is best to connect the plug with double cables to the weigh pad that is closest to the trolley and the single cable plus to the front weigh pad on each side.

Read the Indicator Manual for instruction on how to use the indicator



STEP 8 After Use Storage
When you are finished with the weigh pads reverse the set up procedure to return components back to the trolley.



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