

LOADRITE

FORCE

Weighing System



OPERATORS MANUAL

LOADRITE

Force Weighing System

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ON-BOARD WEIGHING SOLUTIONS



8 Walls Road, PO Box 12-607, Penrose, Auckland, New Zealand



+64-9-5257006



+64-9-5257373



info@loadritescales.com



www.loadritescales.com

Designed & Manufactured by:

actronic



www.actronic.com

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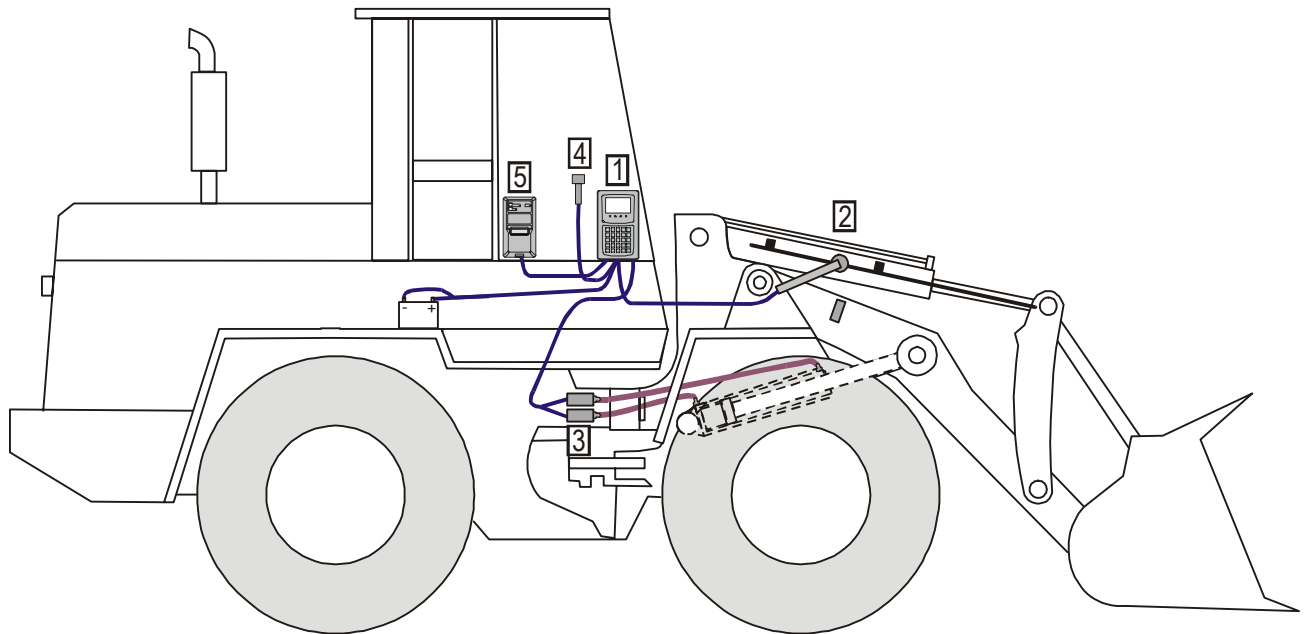
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1 Loadrite Equipped Front-end Loader

1. Indicator
2. Weigh trigger
3. Pressure transducers
4. Remote Add button (optional)
5. Printer (optional)

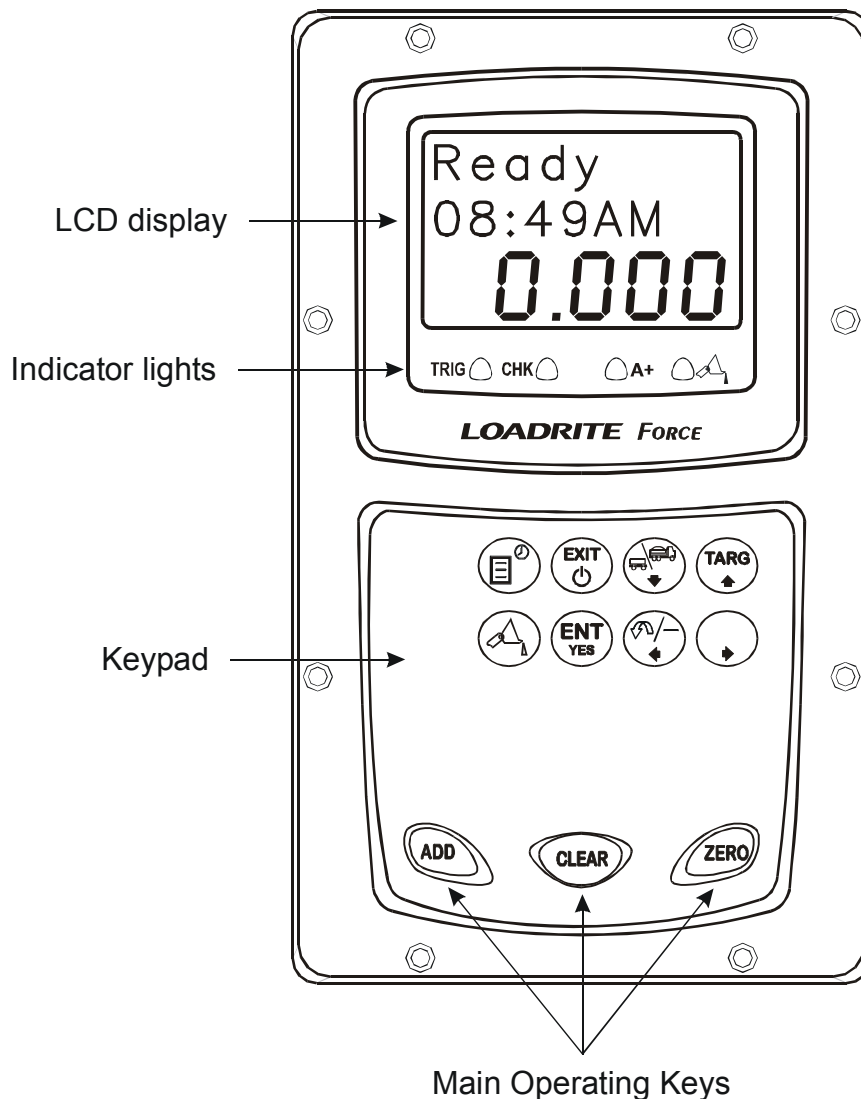


2 Introduction

The Loadrite Force Weighing System measures the weight of loads lifted by front-end loaders, log loaders, forklift trucks and similar machines that use hydraulic rams to lift the load. The Loadrite is installed in the cab of the loading machine and is connected to sensors on the lifting arms.

As the machine raises the load, the Loadrite measures the hydraulic pressure in the lift cylinders, converts pressure into a weight reading and displays the result. An electronic trigger device mounted on the lift arms ensures that the pressure readings are always taken at the same position on every lift.

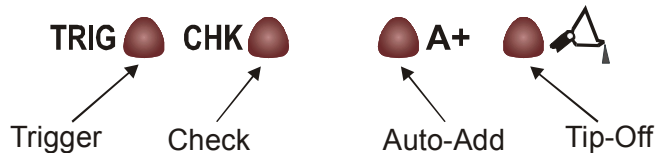
The weight of the bucket or forks and associated structures is zeroed out when the system is calibrated so that only the weight of the payload is displayed. While operating the loader, the driver can add each weight lifted to a running total.



The Loadrite has internal memory which stores settings and production data even when switched off.

Indicator Lights





Four indicator lights are provided below the LCD screen.










Trigger	Illuminates when a load is lifted past the trigger point. When this light is on, the lifted weight may be added.	Pages 7 and 11
Check	Reserved.	-
Auto-Add	Illuminates when the Loadrite is in Auto-Add mode. In this mode, the Loadrite will automatically add the lifted weight.	Page 13
Tip-Off	Illuminates when the Tip-Off function is operating.	Page 27

Keypad

The table below shows the special functions that the keys have in addition to their numeric values used for entering data.

	Displays time and date. Accesses the menu.	Page 42 Page 31
	Tip-off weighing.	Page 27
	Exits an operation without changing the data. When pressed on the Ready screen, puts the Loadrite into Standby mode. To return to the Ready screen, press any key.	Page 5
	Enter key for accepting data or changes.	Page 31

	Scroll down. Also enter Split Weigh mode.	Page 24
	Scroll up. Also enter Target mode.	Page 21
	Scroll left. Recalls the previous load. Subtracts the current load from the total.	Page 17 Page 13
	Scroll right.	-
	Adds the current load to the total.	Page 12
	Clears the short total for the current product.	Page 18
	Zeroes out the current load.	Page 15

3 Quick Start Guide

This section summarises the common Loadrite procedures. For full details of weighing methods, see *Weighing Overview* on page 10 and *Weighing Procedures* on page 12.


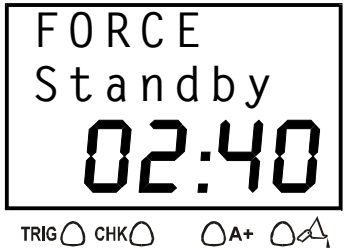
Switching On

The Loadrite powers up automatically when you switch on the ignition of the loading machine.

If the Loadrite has been switched off for more than 1 hour, it displays the Warm Up screen when powered up.

Standby

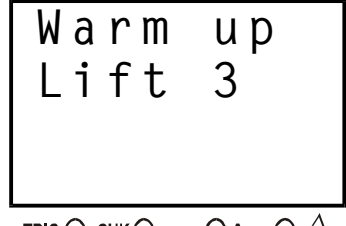
The Loadrite has a 'standby' mode which is similar to turning the Loadrite off.

<p>To put the Loadrite into standby press and hold  , the EXIT key, when in the Ready mode.</p> <p>To restart the Loadrite, press any key.</p>	
---	--

The Warm Up Screen

For best weighing accuracy, the hydraulic fluid in the lift cylinders should be at normal operating temperature. This is achieved by raising and lowering the empty bucket or forks a few times.

The **Warm up** screen is displayed if the machine has been turned off for over an hour.

<p>Raise the empty bucket or forks past the trigger point three times.</p>	
--	---

<p>The Loadrite beeps at each lift and displays the count down from 3. After the third lift, the Ready screen is displayed and the screen may look like this.</p> <p>If it is time to check zero, the Loadrite will display the Check Zero message to remind you.</p> <p>More information about Ready screen and Check Zero screen will be covered later in this manual.</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Ready 02:40 PM 3400</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Check Zero</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>
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The Ready Screen

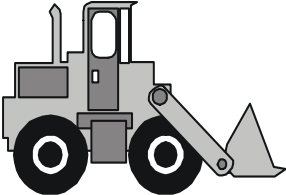
The Ready screen shows the product name and the short total for that product. The short total is simply the sum of loads since you last cleared the total.

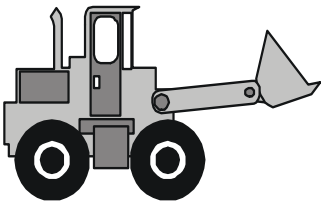

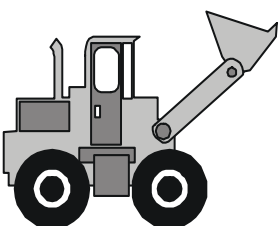

When the Ready screen is displayed, the Loadrite is in Total mode and is ready to weigh.

<div style="border: 1px solid black; padding: 5px;"> <p>Ready 02:40 PM 3400</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>	<p>← The Loadrite is ready to weigh</p> <p>← Time</p> <p>← Current total loaded</p>
---	---

Weighing a Load

(Weights shown are examples only)

<p>Loadrite is ready to weigh. (Current total 3400)</p>		<div style="border: 1px solid black; padding: 5px;"> <p>Ready 02:40 PM 3400</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>
---	---	---





<p>Raise the load smoothly past the trigger point using normal engine revs. The bucket must be fully rolled back during weighing.</p>		<div style="border: 1px solid black; padding: 5px;"> <p>Weighing</p> <p style="font-size: 2em; text-align: center;">3400</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>
<p>A short time later, the Loadrite beeps, turns the TRIG indicator light on and displays the load lifted (2200).</p>		<div style="border: 1px solid black; padding: 5px;"> <p>Total</p> <p style="text-align: right;">3400</p> <p style="font-size: 2em; text-align: center;">2200</p> <p>TRIG <input checked="" type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>



The trigger point is where the magnet passes the body of the trigger.


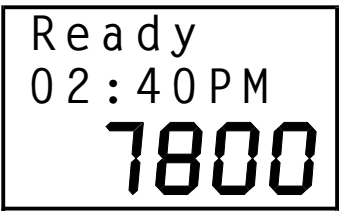

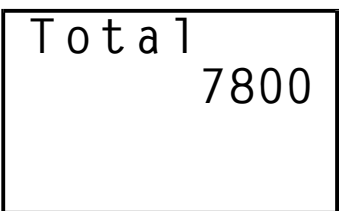

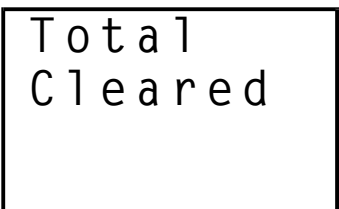

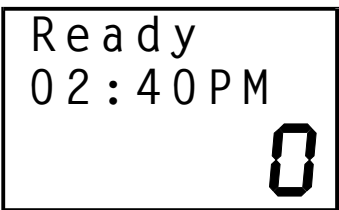

Adding a Load

(Weights shown are examples only)

<p>Before lifting: (Current total 5600)</p>	<div style="border: 1px solid black; padding: 5px;"> <p>Ready</p> <p style="text-align: center;">02:40 PM</p> <p style="font-size: 2em; text-align: center;">5600</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>
<p>Raise the load smoothly past the trigger point using normal engine revs. The Loadrite beeps and displays the load. (Weight of load 2200)</p>	<div style="border: 1px solid black; padding: 5px;"> <p>Total</p> <p style="text-align: right;">5600</p> <p style="font-size: 2em; text-align: center;">2200</p> <p>TRIG <input checked="" type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>
<p>Press . The Loadrite updates the total and returns to the Ready state. (New total 7800)</p>	<div style="border: 1px solid black; padding: 5px;"> <p>Ready</p> <p style="text-align: center;">02:40 PM</p> <p style="font-size: 2em; text-align: center;">7800</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>

Clearing the Short Total

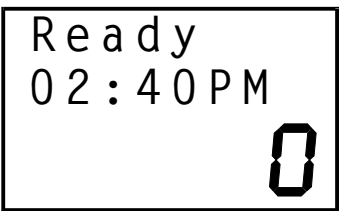

(Weights shown are examples only)

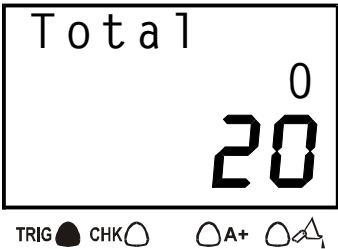

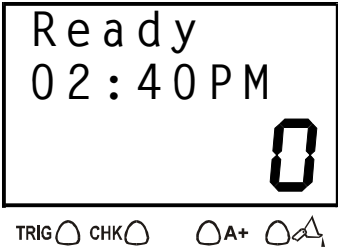
<p>When you want to reset the short total to zero (e.g. after loading a truck) ready for another loading operation,</p> <p>Press  .</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p>
<p>The Loadrite briefly displays the short total for the current product ...</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p>
<p>...then displays Total Cleared for a few seconds, and then ...</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p>
<p>...returns to the Ready screen.</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p>

Zeroing

It is required to zero the Loadrite from time to time. This is to avoid inaccurate readings due to build up of material in the bucket.

(Weights shown are examples only)

<p>Before lifting:</p> <p>Make sure that the bucket is empty and fully rolled back.</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p>
---	--

<p>Raise the bucket smoothly past the trigger point.</p> <p>The Loadrite beeps and displays the load.</p>	 <p>TRIG ● CHK ○ ○ A+ ○ 🔔</p>
<p>Press  .</p> <p>The Loadrite performs the zero adjustment and returns to the Ready state.</p>	 <p>TRIG ○ CHK ○ ○ A+ ○ 🔔</p>

More detailed information about *Zeroing* can be found on page 14.

4 Weighing Overview

Weighing Modes

While individual bucket weight can be measured, the Loadrite also has an ability to accumulate how much weight you have loaded on to a truck. The main weighing modes are shown in the following table. The modes that are available in a particular Loadrite depend on the installation.

Mode	Description
Total	As you add bucket loads, the weights are added to the totals. The short total is displayed.
Target	A target weight is entered into the Loadrite. As you add bucket loads, the remaining value to reach the target is displayed.



The normal mode of operation is Total mode, which uses the **Ready** screen. To return to Total mode from Target mode, press and hold



Short and Long Totals

The Loadrite keeps a total of the bucket weights that you add, of which two independent totals are stored.

Short Total	Typically used to display the total weight lifted onto a truck. As you add successive loads, the Loadrite displays the updated Short Total (sum of the loads so far) on the Ready screen.
Long Total	Typically used to accumulate the weights lifted over a longer period, for example a shift or a day. Long Total may be viewed via the menu. (See page 18.)

Accurate Weighing




For accurate weighing, make sure that:

- The bucket or forks are fully rolled back for each lift.

- The loader is stationary (for best accuracy).
- The lift arms start well below the trigger point (see note on page 7). This ensures that all acceleration and load bounce has been eliminated well before the weighing sequence begins.
- The Loadrite is correctly zeroed. (Zeroing is described on page 14).

General Method of Weighing

1. **BUCKET BACK.** After picking up material into the bucket, roll the bucket back.
2. **LIFT.** Raise the load smoothly past the trigger point using normal engine revs. (The trigger point is where the metal plate passes the body of the trigger). For best results, operate the lift lever before accelerating the engine so that the machine does not rock as it lifts. The Loadrite beeps, turns the TRIG light on and displays the load. (See also page 6).
3. **ADD.** The Loadrite waits for a few seconds for you to take one of the following actions:

- Press  to add the weight to the long and short totals, or
- Press  to subtract the load from the totals, or
- Press  to zero the measuring system.

If you don't press a key, the Loadrite beeps and prompts you to take action. The Loadrite then counts down and if you still don't press a key, it discards the weight and goes back to the **Ready** state.

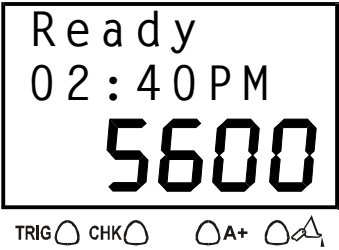
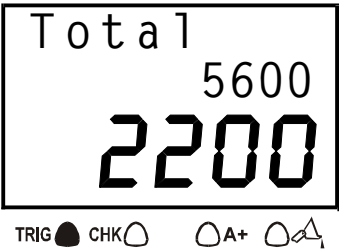

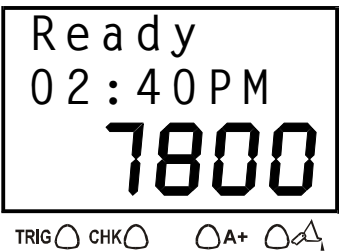
5 Weighing Procedures

Adding a Load

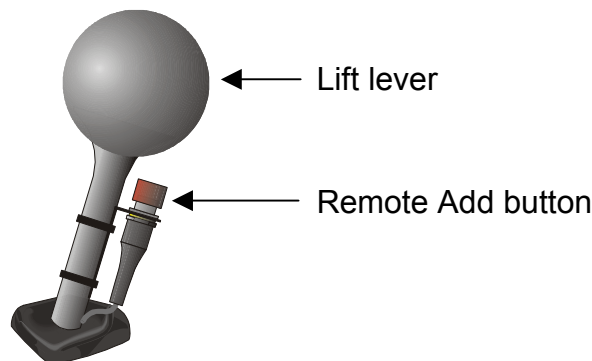
This function adds the lifted weight to the short and long totals for the current product.

To Add a load

(Weights shown are examples only)

<p>Before the load is lifted: (Current total 5600)</p>	
<p>Raise the load smoothly past the trigger point. The Loadrite beeps and displays the load. (Weight of load 2200)</p>	
<p>Press . The Loadrite updates the total and returns to the Ready state. (New total 7800)</p>	

The Loadrite has an option to use a remote add button. If fitted, the remote add button is normally mounted on the lift lever. The remote add button can be used instead of / as well as the add button on the keyboard.

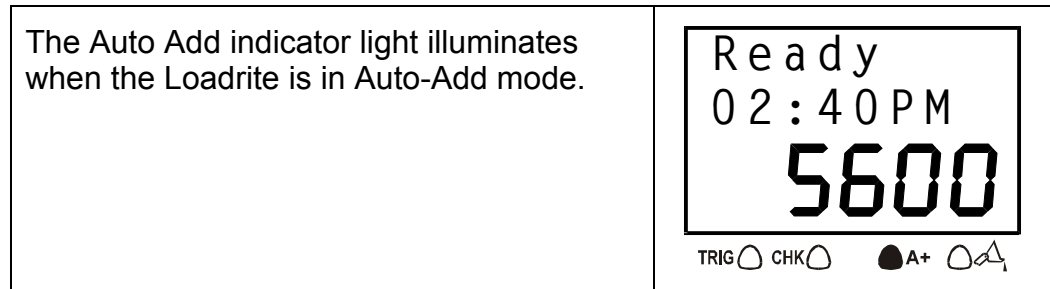











In Target mode, the display is different. For details, see Target Mode on page 21.

Auto Add

Auto Add is an optional feature that is selected during installation. If Auto Add is enabled, the Loadrite can automatically operate the ADD function every time a load is lifted past the trigger point.



To turn on/off auto add function

1. Press  twice to access user menu.
2. Use   to scroll to **Auto Add**.
3. Press  to select.
4. Use   to adjust the setting.
5. Press  to accept the setting.



If Auto Add is on:

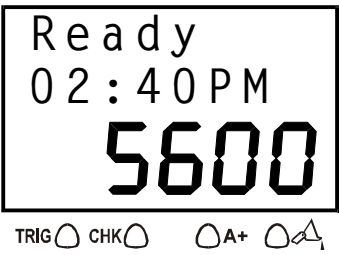
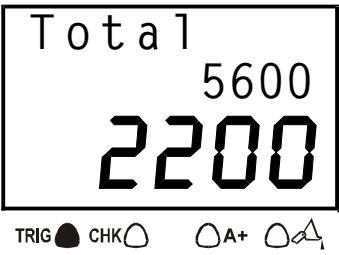

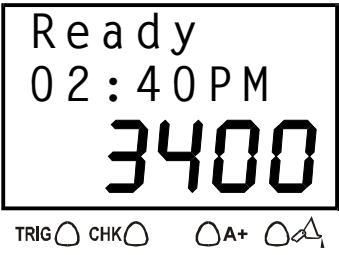
- The procedure for zeroing is different. See page 16.

Subtracting a Load

This function can be useful when only part of a final bucket load of loose material is required. You can add the full bucket load and then re-weigh and subtract the amount remaining in the bucket. Another example is when a log has been added and then removed from a truck.

To subtract a Load

(Weights shown are examples only)

<p>Before the load is lifted: (Current total 5600)</p>	
<p>Raise the load smoothly past the trigger point. The Loadrite beeps and displays the load. (Weight of load 2200)</p>	
<p>Press . The Loadrite updates the total and returns to the Ready state. (New total 3400)</p>	



In Target mode, the display is different. For details, see *Target Mode* on page 21.

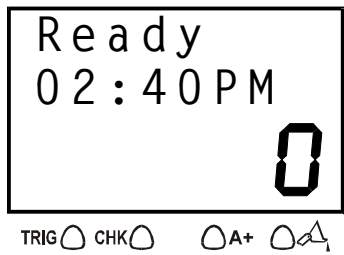
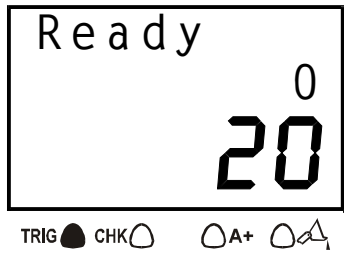

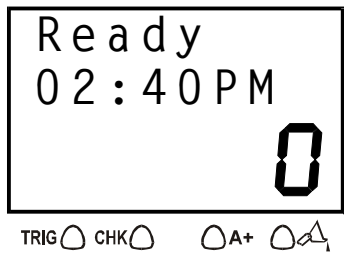
Zeroing

When you raise an empty bucket past the trigger point, the display should read zero. However, due to build up of material in the bucket, a small zero error may occur.





Zero error affects the accuracy of lifted weights.

To zero the Loadrite

<p>Before lifting:</p> <p>Make sure that the bucket is empty and fully rolled back.</p> <p>The loader must be on level ground.</p>	
<p>Raise the bucket smoothly past the trigger point using normal engine revs.</p> <p>The Loadrite beeps and displays the load.</p> <p>(Example weight 20)</p>	
<p>Press the  key.</p> <p>The Loadrite performs the zero adjustment and returns to the Ready state.</p>	

Large ZERO Error

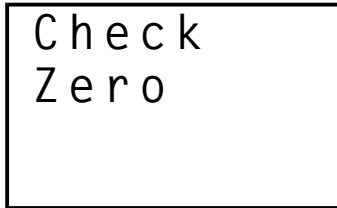
If the weight is greater than 5% of full scale, when you press , the Loadrite prompts **Bucket Empty?** If it is, press **ENT** which will zero the empty bucket. Pressing **EXIT** will not zero the scale

If the weight is greater than 10% of full scale, when you press , the Loadrite displays **Too heavy, zero aborted** and does not alter any settings.

This prevents any accidental zeroing of valid weights.

If the bucket is empty and this message still occurs, there may be a fault in the system. The Loadrite should be checked and, if necessary, re-calibrated.

Check Zero Prompt



This function automatically reminds the operator to check ZERO occasionally. Changes in the ZERO occur more often while the machine is warming up.

When first turned on, after having been off for more than one hour, the Loadrite will remind the operator to do a ZERO check:

- Every 15 minutes for the first hour
- Every 30 minutes thereafter

At this point a ZERO check lift should be carried out as described in the previous section.

The reminder can be cleared without doing a ZERO check, by simply continuing with normal operation. However, a ZERO error can affect the accuracy of lifted weights so it is important to do a ZERO check regularly.


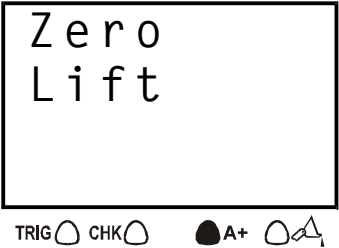
The automatic CHECK ZERO reminder will not occur if the operator is checking the ZERO often enough.



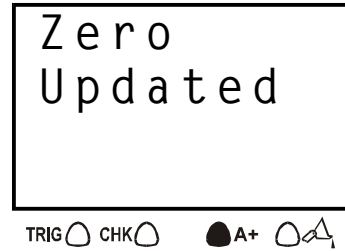
The automatic CHECK ZERO prompt is an optional function that is selected during installation.

Zeroing when Auto Add is On

The procedure to zero may be different when Auto Add is on and Auto Add Time is set to 0. If this is how your Loadrite is configured, you will need to carry out the following procedure:

<p>Before lifting:</p> <p>Press the  key.</p>	
--	---

Raise the empty bucket smoothly past the trigger point. The Loadrite beeps and performs the zero adjustment.



If Auto Add is not on, or Auto Add Time is not set to 0, follow the standard procedure to zero (page 15).

Auto-Add is described on page 13.

Recalling Last Load


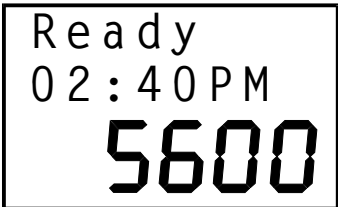
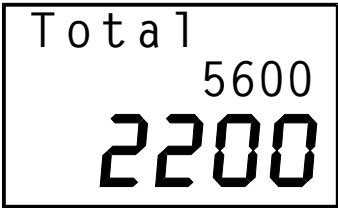
The Recall function is equivalent to lifting the same load again and can be used to correct mistakes.

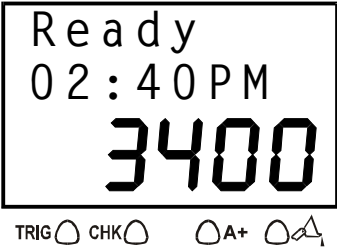
You can recall and display the last load if it has been:



- Added
- Subtracted, or
- Timed out (ignored).

To Recall the previously lifted weight

(Weights shown are examples only)

<p>Current total 5600.</p> <p>Press </p>	 <p>The screenshot shows a rectangular display area with the text "Ready" at the top, "02:40 PM" in the middle, and "5600" in large digits at the bottom. Below the display, there are four control icons: "TRIG" with an open circle, "CHK" with an open circle, "A+" with an open circle, and a bell icon with a diagonal line through it.</p>
<p>The Loadrite beeps and displays the last load.</p> <p>(Weight of last load 2200)</p>	 <p>The screenshot shows a rectangular display area with the text "Total" at the top, "5600" in the middle, and "2200" in large digits at the bottom. Below the display, there are four control icons: "TRIG" with a solid black circle, "CHK" with an open circle, "A+" with an open circle, and a bell icon with a diagonal line through it.</p>






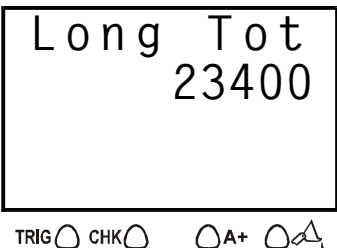
<p>If the last action was an “add”, you can subtract.</p> <p>If the last action was a “subtract”, you can add.</p> <p>(Example: subtracting a load that was previously added, new total 3400)</p>	
---	---

 If you press a key that is not allowed in the circumstances, such as  when the recalled load was previously added, the Loadrite ignores the key press.

Viewing Long Total

To view the Long Total


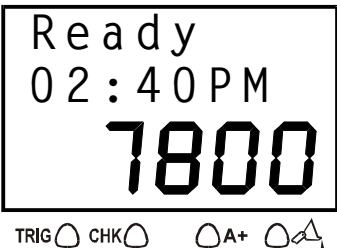
(Weights shown are examples only)

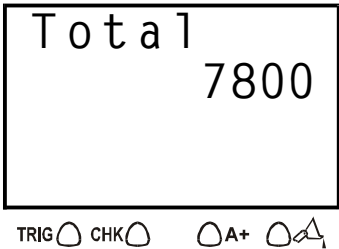
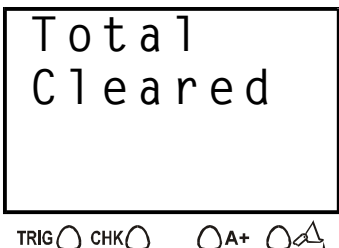
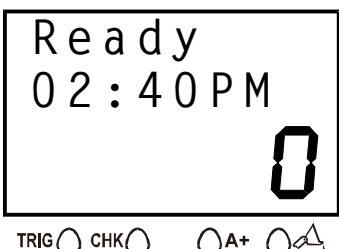
<p>In Ready screen, press  twice to display the menu.</p> <p>Use   to scroll to the Long Total option.</p> <p>Press  .</p> <p>The Loadrite displays the Long Total.</p> <p>Press  to return to the Ready screen.</p>	
--	--

Clearing Totals

To clear the Short Total





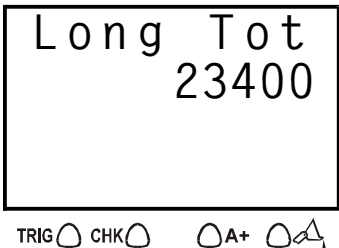

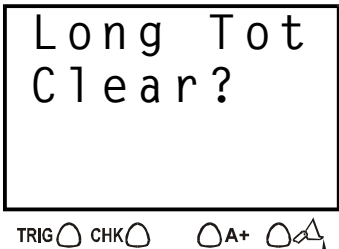
(Weights shown are examples only)


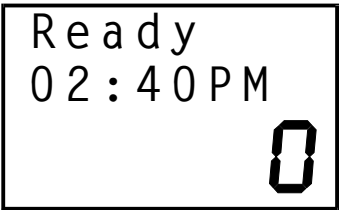





<p>In the Ready mode,</p> <p>press  .</p>	
---	---

<p>The Loadrite briefly displays the short total for the current product ...</p>	
<p>...then displays Total Cleared for a few seconds, and then ...</p>	
<p>... returns to the Ready screen. The next ADD operation starts a new Short Total for this product.</p>	

To clear the Long Total

(Weights shown are examples only)

<p>In Ready screen, press  twice to display the menu. Use   to scroll to the Long Total option. Press  . The Loadrite displays the Long Total.</p>	
<p>Press  . The Loadrite asks you to confirm the clear</p>	

<p>Press  to confirm.</p> <p>The Loadrite displays Long Tot Cleared for a few seconds and then returns to the Ready screen.</p> <p>Note that the Short Total is also cleared for consistency.</p>	 <p>Ready 02:40 PM</p> <p></p> <p>TRIG  CHK  A+  </p>
--	---

6 Target Mode

Target mode is an optional feature that is selected during installation. This feature provides an easy way to load up to a target weight for a product in a series of lifts. In Target mode, the Loadrite displays the “To Load” value, which is the remaining amount to reach the target.

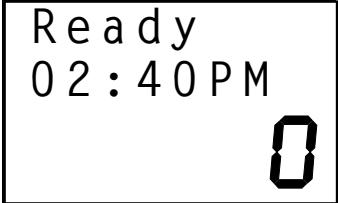




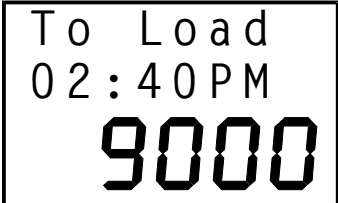
Before loading, the operator enters a target weight. Each time you add a weight, the “To Load” value is reduced by that weight.

Target mode is used typically when loading a truck to its optimum payload.

To enter Target mode (and enter a new target)

You can also change the current target when entering target mode. This is explained below.

(Weights shown are examples only)

<p>First clear the previous total. (<i>Clearing Totals</i> is described on page 18.)</p> <p>The Loadrite is in Total mode at this point.</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> <input type="checkbox"/> A₁</p>
<p>Press .</p> <p>The Loadrite displays the last target value used.</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> <input type="checkbox"/> A₁</p>
<p>Suppose the new target is 9000.</p> <p>Use the \leftarrow \rightarrow keys to decrement/increment to the target value of 9000.</p> <p>Press  to accept it.</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> <input type="checkbox"/> A₁</p>
<p>The Loadrite displays Target Updated for a few seconds and then returns to the Ready screen in Target mode.</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> <input type="checkbox"/> A₁</p>

As your “To Load” value approaches zero, you are getting close to finishing loading a truck. It does not have to be exactly zero, as long as it is close. For example, if you have **To Load** value **20**, it means that you are 20 under the target. If you have **To Load** value **-20** (negative), it means that you are 20 over the target.


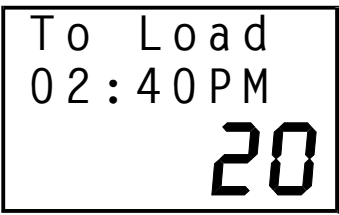

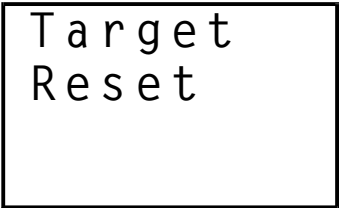

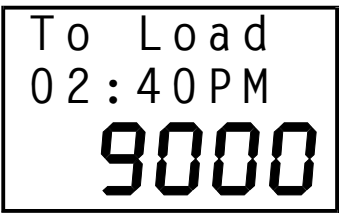



Holding down either arrow key (← →) will rapidly increment/decrement target value.

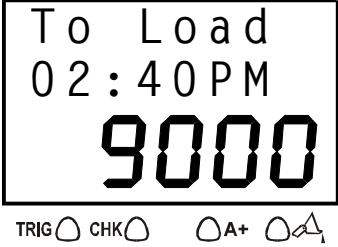

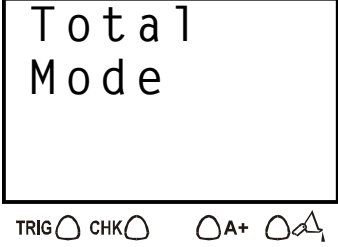
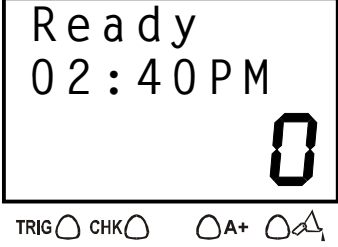
To reset to Target

When you are finished loading a truck, you need to clear the total or reset the target.

(Weights shown are examples only)

<p>Press  .</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p>
<p>The Loadrite displays Target Reset for a few seconds and then ...</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p>
<p>... resets the display to the current target.</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p>

To return to Total mode

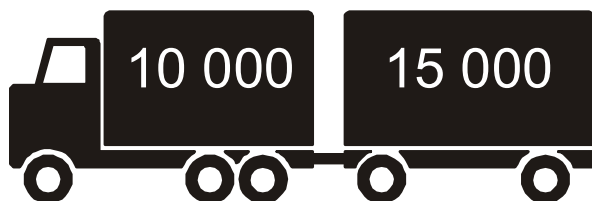
<p>To Load message indicates that we are in Target mode.</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> <input type="checkbox"/></p>
<p>Press and hold  .</p> <p>The Loadrite displays Total Mode for a few seconds and then ...</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> <input type="checkbox"/></p>
<p>... returns to Total mode. The message Ready is shown along with the current total.</p>	 <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> <input type="checkbox"/></p>

7 Split Mode

Split Mode is an optional feature that is selected during installation. This feature provides an easy way to load a truck with a trailer. You can split the total into multiple sub-totals.

The following example illustrates how to use the split function.


Example: Suppose we are to load a truck with a trailer. The truck can carry 10 000 and the trailer 15 000, the total therefore being 25 000.



(Weights shown are examples only)

EXAMPLE	TOTAL MODE	TARGET MODE
At start: Current weight = 0 Weight needed = 10 000	<div style="border: 1px solid black; padding: 5px; text-align: center;"> Ready 02:40PM 0 </div> TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A	<div style="border: 1px solid black; padding: 5px; text-align: center;"> Ready 02:40PM 0 </div> TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A
To load 10 000 into the truck...		<div style="text-align: center;"> TARG ↑ Target = 10 000 </div> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;"> To Load 02:40PM 10000 </div> TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A
Add # 1: 5 000:	<div style="border: 1px solid black; padding: 5px; text-align: center;"> To Load 02:40PM 5000 </div> TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A	<div style="border: 1px solid black; padding: 5px; text-align: center;"> To Load 02:40PM 5000 </div> TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A

EXAMPLE (continued)	TOTAL MODE	TARGET MODE
<p>Add # 2: 5 000</p> <p>The truck is full with a weight of 10 000.</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>To Load 02:40 PM 10000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>To Load 02:40 PM 0</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>
<p>Go into Split Mode:</p> <p>Press .</p> <p>At present we have: Truck Total = 10 000 Trailer Total = 0 Grand Total = 10 000</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Subtotal 10000 10000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;"> <p>Ready 10000 0</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Subtotal 10000 0</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;"> <p>To Load 10000 10000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>
<p>To load 15 000 into the trailer...</p>		<p> Target = 15 000</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;"> <p>To Load 10000 15000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>
<p>Add # 3: 5 000 (First add towards the trailer).</p> <p>This gives us: Truck Total = 10 000 Trailer Total = 5 000 Grand Total = 15 000</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Ready 15000 5000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>To Load 15000 10000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> </p> </div>

EXAMPLE (continued)	TOTAL MODE	TARGET MODE
<p>Add # 4: 5 000 (Next add towards the trailer).</p> <p>This gives us: Truck Total = 10 000 Trailer Total = 10 000 Grand Total = 20 000</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Ready</p> <p>20000</p> <p>10000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A₁</p> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>To Load</p> <p>20000</p> <p>5000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A₁</p> </div>
<p>Add # 5: 5 000 (Final add towards the trailer).</p> <p>This gives us: Truck Total = 10 000 Trailer Total = 15 000 Grand Total = 25 000</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Ready</p> <p>25000</p> <p>15000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A₁</p> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>To Load</p> <p>25000</p> <p>0</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A₁</p> </div>
<p>Press  to finish loading.</p> <p>We now have: Truck Total = 10 000 Trailer Total = 15 000 Grand Total = 25 000</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Subtotal</p> <p>15000</p> <p>15000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A₁</p> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Total</p> <p>25000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A₁</p> </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Subtotal</p> <p>15000</p> <p>0</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A₁</p> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Total</p> <p>25000</p> <p>TRIG <input type="checkbox"/> CHK <input type="checkbox"/> <input type="checkbox"/> A+ <input type="checkbox"/> A₁</p> </div>

Sample Printout:

Add (1)	5000
Add (2)	5000
Subtotal	10000
Add (3)	5000
Add (4)	5000
Add (5)	5000
Subtotal	15000
Total	25000

8 Tip Off

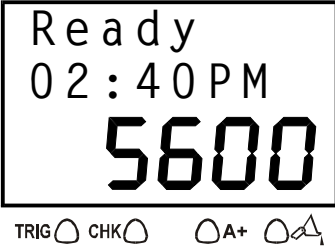
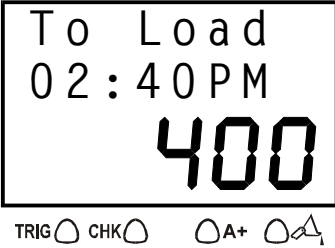
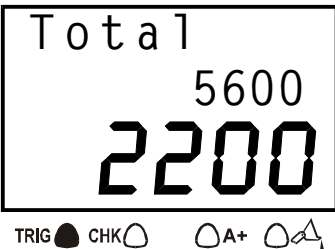
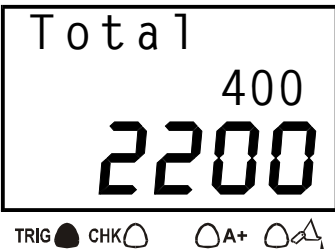

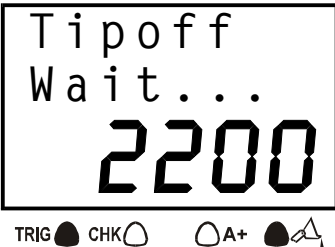
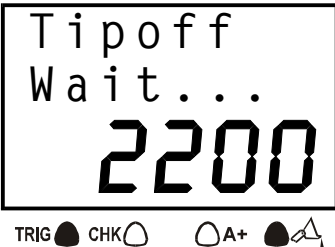
This feature allows you to load a truck to an exact value by using only part of the last bucketful.

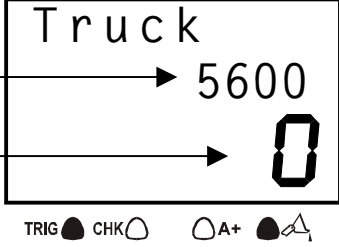
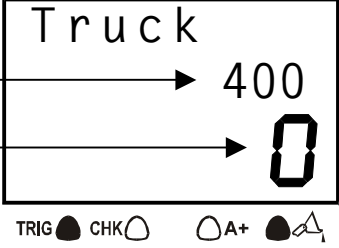
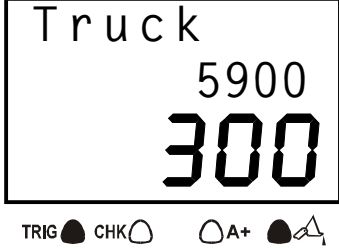
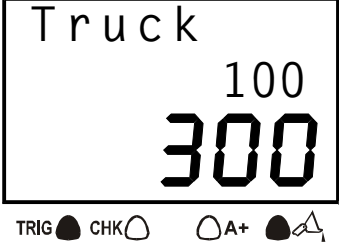
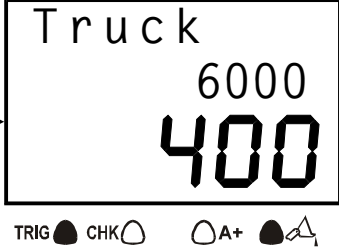
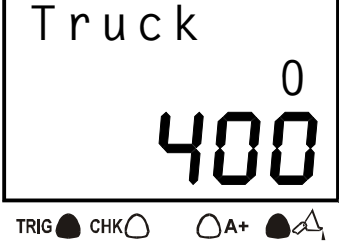

There are two different methods, depending on the way the Loadrite has been set up:

- Truck tip-off, or
- Stock Pile tip-off.

Truck Tip-Off

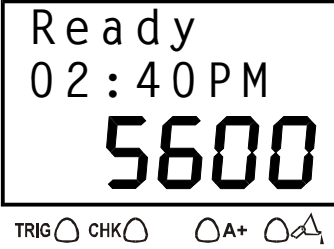
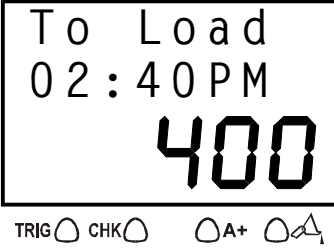
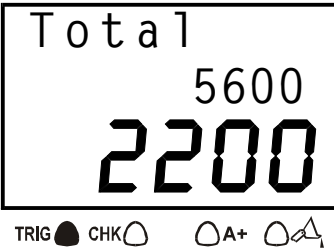
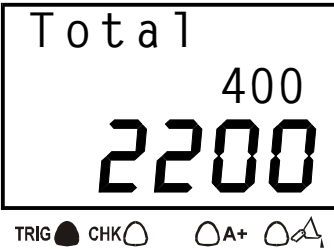

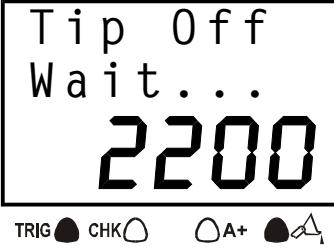
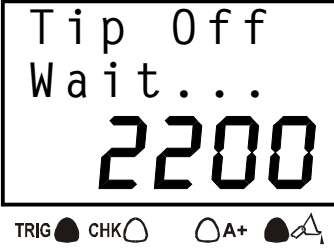
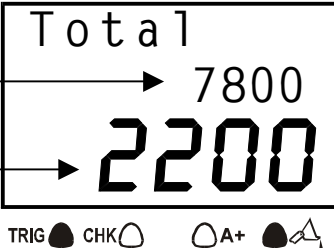
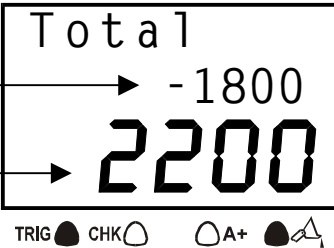
Using this method, you tip a measured amount of product from the bucket into the truck and dump the rest. The following example illustrates the weigh screen shots when in Total mode or Target mode.

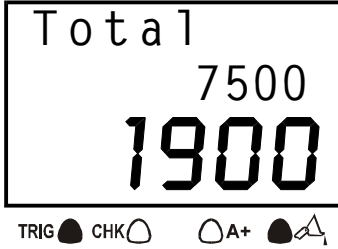
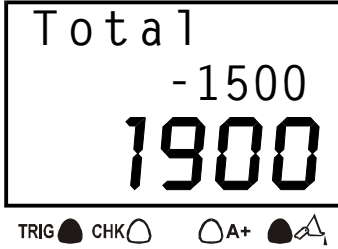
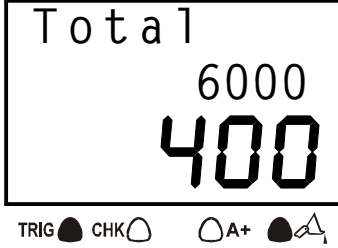
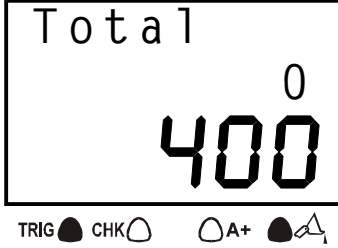

EXAMPLE	TOTAL MODE	TARGET MODE
Target weight = 6000kg Current weight = 5600kg Weight needed = 400kg		
Lift the load in the normal way. The Loadrite displays the lifted weight (2200kg) Lift the bucket to a suitable height over the truck.		
Press  . The Tip-Off indicator light comes on.		

EXAMPLE (continued)	TOTAL MODE	TARGET MODE
<p>To tip off into truck a weight of 400kg:</p> <p>Middle number shows total weight as it is being tipped onto the truck.</p> <p>Lower number shows weight tipped off onto the truck.</p> <p>Middle number shows the weight still to be tipped onto the truck.</p> <p>Lower number shows weight tipped off onto the truck.</p>		
<p>Roll the bucket partially forward, tipping product into the truck: with 300kg tipped off so far...</p>		
<p>The Loadrite displays the total in the truck and the amount that has been tipped from the bucket.</p> <p>The Loadrite displays the weight still to be tipped onto the truck and the amount that has been tipped from the bucket.</p>		
<p>When the required truck load is reached, press .</p>		
<p>Finally, move away from the truck and dump any product remaining in the bucket.</p>		

Stock Pile Tip-off

Using this method, you dump product from the bucket until it contains the right amount for loading onto the truck. The following example illustrates the weigh screen shots when in Total Mode or Target Mode.

EXAMPLE	TOTAL MODE	TARGET MODE
Target weight = 6000kg Current weight = 5600kg Weight needed = 400kg		
Lift the load in the normal way. The Loadrite displays the lifted weight (2200kg) Lift the bucket to a suitable height over the truck.		
Press  . The Tip-Off indicator light comes on.		
To adjust weight of last bucket to 400kg: Middle number shows total weight plus 'live' weight. Lower number shows 'live' weight in the bucket.		
Middle number shows target weight plus 'live' weight. Lower number shows 'live' weight in the bucket.		

EXAMPLE (continued)	TOTAL MODE	TARGET MODE
Roll the bucket partially forward, dumping product : with 300kg tipped off so far...		
The Loadrite displays the 'live' weight in the bucket.		
When the required weight is displayed, press  .		
Finally, tip the product from the bucket into the truck.		

Notes on Tip-Off Function

- When tipping product from the bucket, do not raise or lower the lifting arms as this would adversely affect the live weight reading.
- Tip-Off cannot be used if Auto-Add Time is set to 0 sec. Auto-Add is described on page 13.

9 Menu Options



The Menu allows you to change some of the settings of the Loadrite.


The options are as follows:

Setup...		Installation functions (security code required)
Language	★	Language setting
Clock	★	Clock setting
Scale #	★	Change scale
Long Tot		Long Total view/clear
AutoAdd	★	Auto add setting
Selftest		Self test
Uplink		Sets up the Loadrite to communicate with PC-based "Loadrite Link" application to receive new configuration

★ Depending upon the configuration during installation, some options may not be available.

To access an item on the menu:


1. Press  twice .
2. Use ↑ ↓ to scroll to the required option.
3. Press  to select the option.



When you have finished with an option, the Loadrite returns to the main menu. To return to the **Ready** screen, press .

Setup

The Setup option enables you to access special functions such as span calibration. You need a security code to access these functions.

To access the Setup options:








1. Press  twice.
2. Use ↑ ↓ to scroll to **Setup**.

3. Press  to select.
4. The Loadrite prompts you to enter an access code. For special functions, key in your security code and press .

Language Setting (Language)

The Loadrite can optionally support multiple languages. If multiple language is enabled during installation, you can select the language in which the display texts will be shown.

To change the language

1. Press  twice.
1. Use   to scroll to **Language**.
2. Press  to select.
3. Use   to scroll to the desired language, then press .

Clock Setting (Clock)




Clock Setting editing is an optional function that is selected during installation. Once enabled, you have access to change the Loadrite internal clock (date/time) setting.



To set the time and date – refer to page 42.

Changing Scale Number (Scale#)

This function enables different load bearing implements to be used by the vehicle. It is available only if the multiple scale feature has been enabled during installation, e.g. bucket or forks. Both should be assigned a number. Once enabled, the operator needs to select the correct scale for the attached implement. The Loadrite has two scales.

To change the Scale

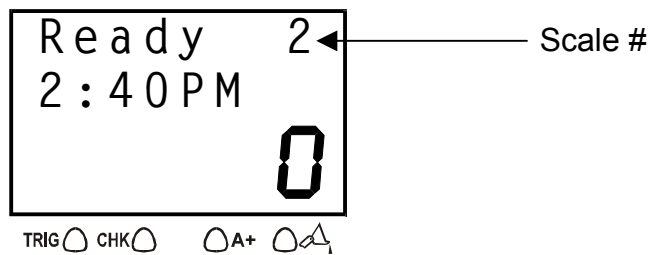
1. Press  twice.
2. Use   to scroll to **Scale#**.

3. Press  to select.
4. Use \uparrow \downarrow to scroll to the desired scale number, then press .



It is important to check zero before continuing (page 14).

If multiple scale is enabled, the scale number is shown on the Ready screen.



Long Total (Long Tot)




To view the Long Total – refer to page 18.

To clear the Long Total – refer to page 19.

Auto Add On/Off Setting (Auto Add)

Auto Add is an optional feature that is selected during installation. If Auto-Add is enabled, the Loadrite can automatically operate the ADD function every time a load is lifted past the trigger point.



To turn on/off Auto Add function

1. Press  twice.
2. Use \uparrow \downarrow to scroll to **Auto Add**.
3. Press  to select.
4. Use \uparrow \downarrow to adjust the setting.
5. Press  to accept the setting.

Self Test (Selftest)

Self test function tests various internal memory and devices.



To access the Self Test function:

1. Press  twice .
2. Use ↑ ↓ to scroll to **Selftest**.
3. Press  to select.

Uplink (Uplink)

Uplink mode is a special mode that communicates with a PC using Loadrite Link[®] (optional PC application). In this mode, you can use Loadrite Link to program product names and data list (customer list).

To access the Uplink function:

1. Press  twice .
2. Use ↑ ↓ to scroll to **Uplink**.
3. Press  to select.

10 Print Functions

When a Loadrite printer is connected, weight data can be printed as you weigh loads. The print options are set up at installation time.

The data can be automatically printed when particular functions are performed as listed below:-

On Power Up

Loadrite sign on	Optional
------------------	----------

Add performed

Sequence number	Optional
-----------------	----------

Weight	Optional
--------	----------

Time	Optional
------	----------

Subtract performed

Sequence number	Optional
-----------------	----------

Weight	Optional
--------	----------

Clear Short Total

Short total	Optional
-------------	----------

ID number (of loader)	Optional
-----------------------	----------

Date / Time	Optional
-------------	----------

User title (company name)	Optional
---------------------------	----------

Clear Long Total

Long total	Always printed
------------	----------------

ID number (of loader)	Always printed
-----------------------	----------------

Date / Time	Always printed
-------------	----------------

Zero performed

Weight zeroed	Always printed
---------------	----------------

11 Obtaining the Best Accuracy

Lifting Speed

The hydraulic pressure required to lift a load varies with the speed of lift. The Loadrite electronically corrects for most variations, but better accuracy is obtained if you limit the range of lifting speed used.

Keep engine revs constant.

Trigger Point

The hydraulic pressure required to start lifting is much greater than that required to keep the load moving smoothly upwards. It is important that the load is moving at a steady speed when it reaches the trigger point.

We recommend that you start the lift well below the trigger point. In terms of time, **at least 2 seconds of lift before the trigger point.**

Bounce

Most loaders have pneumatic tyres which can cause the machine to bounce when lifting. Any bounce causes variation in the hydraulic pressure and affects the accuracy of the weight measurement.

To minimise the effect of bounce, always operate the lift lever before accelerating the engine and start the lift well below the trigger point.

Centre of Gravity

The hydraulic pressure in the lifting cylinders depends on where the centre of gravity of the load is.

It is important that the bucket is always in the same position – fully rolled back.

12 Error Messages

Check Zero

The Loadrite automatically reminds the operator to check zero occasionally.

See Check Zero Prompt on page 16.

When this message appears you need to perform zero lift.

Lift Under Range

The Loadrite has detected that the Lift pressure was too low.

This indicates a fault in either the pressure transducer or the cable that connects the transducer.

Power Error

The Loadrite has detected that the power supply has dropped too low.

Printer Disabled

Print function has been disabled at installation.

Printer Error

The Loadrite has detected a fault in the printer.

Check that the printer is on-line and not out of paper.

Return Under Range

The Loadrite has detected that the Return pressure was too low.

This indicates a fault in either the pressure transducer or the cable that connects the transducer.

1. No weight is displayed and hence there is no weight to add. You should repeat the lift. Avoid accelerating and decelerating at or near the trigger sequence.
2. Weighing Error is turned off and a weight is displayed. You can add the weight to the total (bearing in mind that the weight measurement is not reliable) or you can ignore this weight and repeat the lift smoothly.

Too Heavy, Zero Aborted

The Loadrite zero function can only zero up to 10% of full scale.

See page 14 for details.

Warm Up Lift

This message appears if the Loadrite has been switched off for more than 1 hour.

You need to lift the bucket/forks a few times to warm up.

See the *Warm Up Screen* on page 5 for details.

13 Specifications

Suitable Applications

The Loadrite measures weight by sensing the hydraulic pressure required to lift a load. A trigger mechanism senses the position of the lifting arms.

Typical vehicles using the Loadrite system are:

- Front end loaders (bucket and/or fork)
- Forklift trucks

Weighing Accuracy

Typical accuracy is $\pm 1\%$ for most bucket loaders. This may vary with different machine types and installation options.

Minimal Weighing Delay

Weighing delay is minimal, because the weighing function is carried out during a normal lift. Loader should be stationary.

Power requirements

Supply Voltage	12 to 32 Volts DC
Supply current	Loadrite indicator: 160mA typical, 350mA max. Loadrite printer: 50mA standby, 4A peak.

Automatic transient suppression. Exceeds relevant SAE specifications for DC automotive power supply transients.

Signal Inputs and Outputs

Pressure transducer input	4 - 20mA (0-100%).
Trigger input (Magnetic)	Pull-up resistor requiring switch to ground.
Serial communications.	RS232C protocol to printer.

14 Output / Input Connections

Transducer

1. +12V
2. Return pressure input
3. Transducer current input
4. +10 volt excitation
5. Lift pressure input
6. Shield
7. Ground

Power/Control


1. Negative supply (ground)
2. Positive supply
3. Remote button 2 (clear)
4. Remote button 1 (add)
5. N.C.
6. Trigger 1: Magnetic or Optical trigger
7. N.C.
8. Positive supply to Trigger 2
9. N.C.
10. Trigger 2: Rotary trigger
11. N.C.
12. N.C.
13. Ground output
14. Positive output
15. Ground output

Printer/Logger

1. Negative supply to printer
2. Positive supply to printer
3. +12V output
4. N.C.
5. Reserved
6. Printer RS232 output
7. Printer busy input
8. EDP RS232 input
9. EDP RS232 output
10. Ground output
11. Reserved
12. N.C.

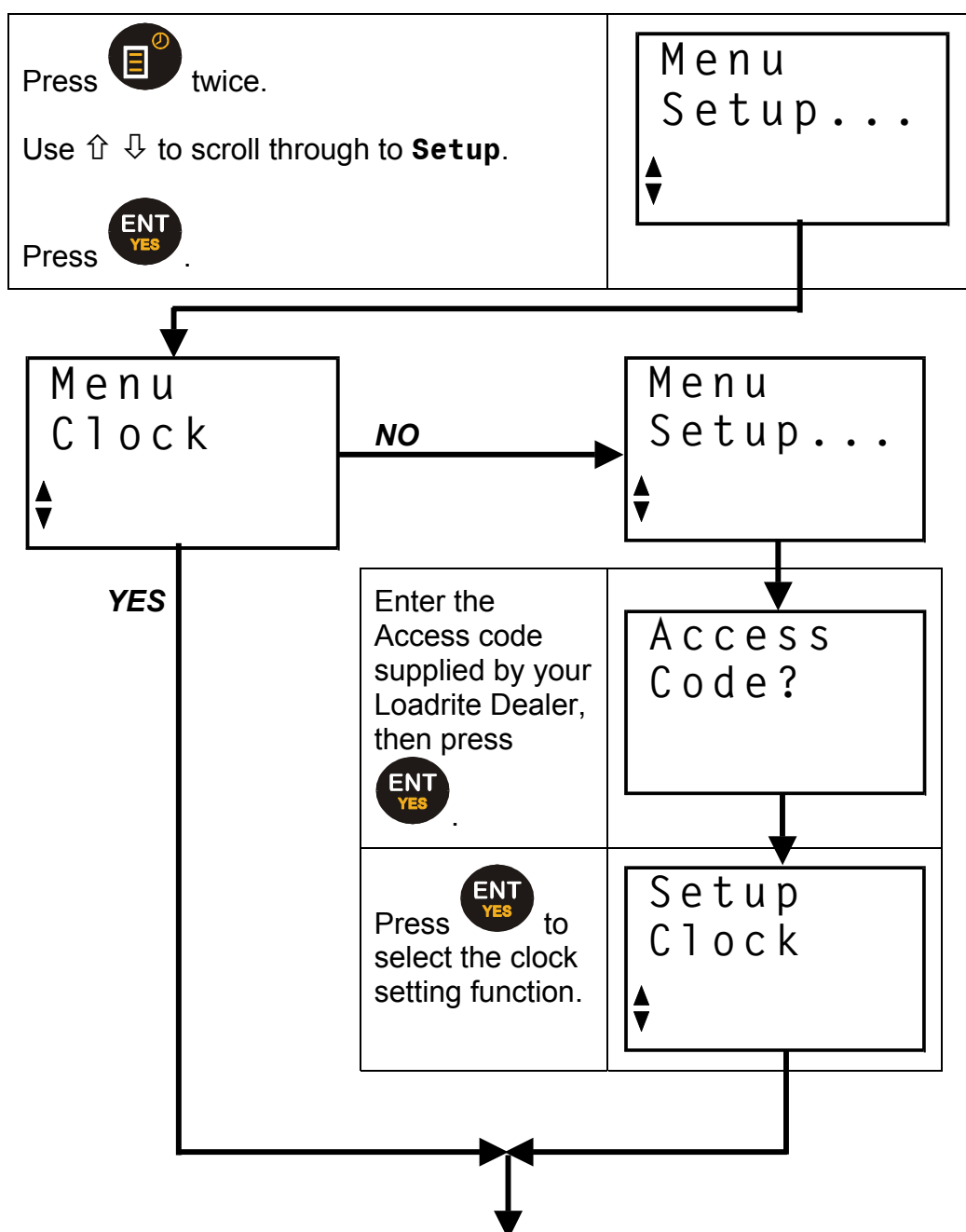
Appendix i Time and Date


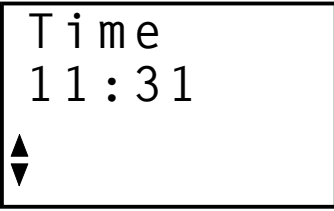


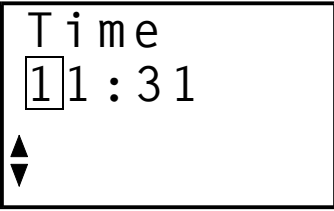


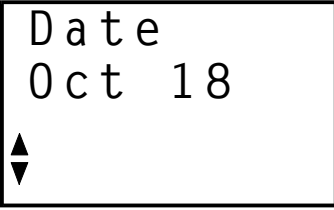


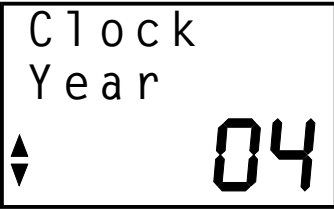
The Loadrite has an internal clock that can be used for inserting the time and date into printed data.

You can display the time and date by pressing the  key.

To set the time and date:

You may need an access code from your Loadrite Dealer to be able to set the clock. This is configured at installation time. A code is needed if the "Clock" function does not appear on the menu.



<p>The Loadrite displays the first of the time / date screens.</p> <p>You can use \uparrow \downarrow to scroll through the time/ date screens. When on the required screen, press  to change the setting.</p>	
<p>Time of day screen:</p> <p>Press  to allow editing, a flashing cursor will appear.</p> <p>Use the arrow keys to change the time and the AM/PM setting if available.</p> <p>Press  to confirm the new time.</p>	
<p>Day and month screen:</p> <p>Press  to allow editing.</p> <p>Use the arrow keys to change the setting.</p> <p>Press  to confirm the new date.</p>	
<p>Year screen:</p> <p>Press  to allow editing.</p> <p>Use the arrow keys to change the setting.</p> <p>Press  to confirm the new year.</p>	

Appendix ii Span Calibration Adjustment

This function allows small changes to be made to the Loadrite calibration if the bucket or forks of the loader are modified or if no accurate test weight is available when the Loadrite is calibrated at installation time.





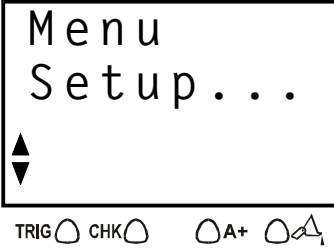


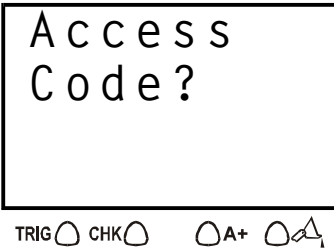




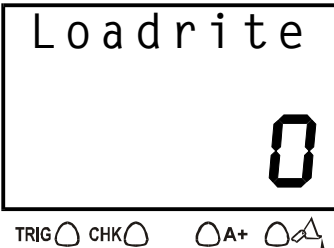

The adjustment is carried out by entering the total of weights recorded at a weigh bridge (scale house) over a period of time and the corresponding Loadrite total.


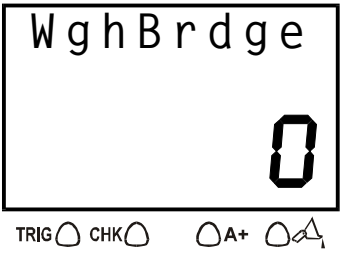

To perform the adjustment you need to obtain a security access code from your Loadrite installer.

WARNING

The Loadrite alters its calibration every time this function is used. It is important that you only use this function once with a given set of data. If the same weights are entered again, the Loadrite will over correct and its accuracy will be seriously impaired.

The method is explained below using an example.

<p>Press  twice.</p> <p>Use   to scroll through to Setup.</p> <p>Press .</p>	 <p>Menu Setup...</p> <p>▲▼</p> <p>TRIG ○ CHK ○ ○A+ ○ </p>
<p>Enter the Access code supplied by your Loadrite Dealer.</p> <p>Then press .</p>	 <p>Access Code?</p> <p>TRIG ○ CHK ○ ○A+ ○ </p>
<p>The Loadrite prompts you to enter the Loadrite total weight.</p> <p>Use   to enter the Loadrite total and press .</p>	 <p>Loadrite</p> <p>0</p> <p>TRIG ○ CHK ○ ○A+ ○ </p>

<p>Use ← → to enter the weigh bridge total and press .</p>	
<p>The Loadrite briefly displays Span Updated and then returns to the menu. Press  to return to the Ready screen.</p>	

Checking the Adjustment

You can check the Calibration Adjustment by obtaining and comparing new Loadrite and Weighbridge Values. If necessary, the Calibration Adjustment can be performed again using the new data.

Notes to remember:

All trucks and trailers should have tare weights confirmed for all loads to be checked. This ensures that a true weight can be established. Avoid split weighing the truck and trailer.

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