LOADRITE

Pro

Weighing System

OPERATORS MANUAL

LOADRITE

Pro Weighing System

Model LR918

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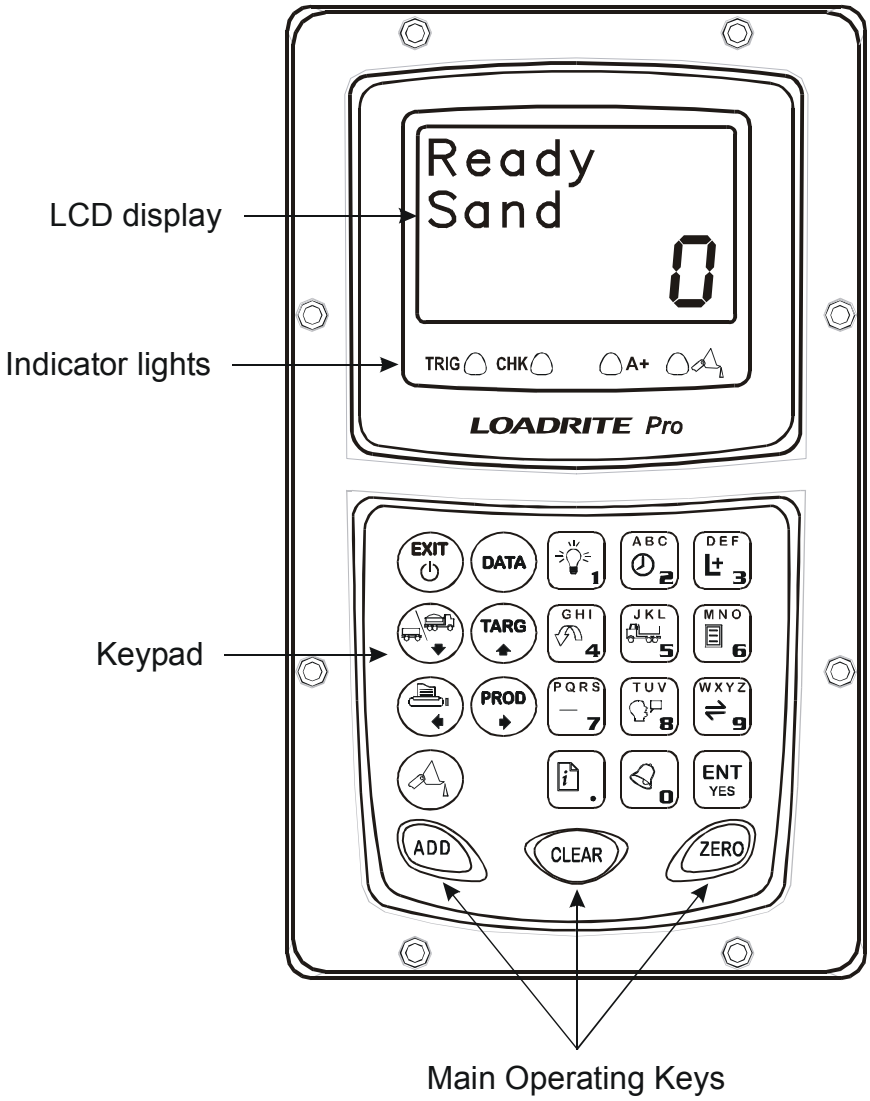
1 Introduction

The Loadrite 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.

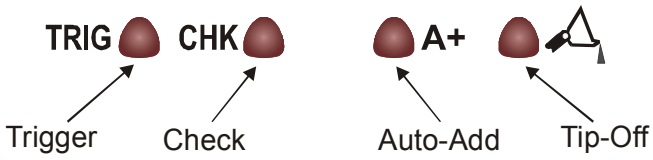
The weight of the bucket or forks and associated structures is zeroed out when the system is calibrated so that only the weight of the payload is displayed. While operating the loader, the driver can add each weight lifted to a running total.



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 12
Check Function	Illuminates when the Loadrite is in the user-selected function. Possible options are Interlock, Tare mode, and Safe-to-weigh mode for rotary trigger. Configuration is set during installation.	-
Auto-Add	Illuminates when the Loadrite is in Auto-Add mode. In this mode, the Loadrite will automatically add the lifted weight.	Page 14
Tip-Off	Illuminates when the Tip-Off function is operating.	Page 52

Keypad

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

	Adjusts the brightness of the screen back light.	-
	Displays time and date.	-
	Displays the long total for the current product.	Page 19
	Recalls the previous load.	Page 18

	Allows you to enter a tare weight.	Page 21
	Accesses the menu	Page 56
	Subtracts the current load from the total.	Page 15
	Toggle language.	-
	Accesses conversion.	-
	View alarm settings.	-
	Decimal point. Also view system information.	-
	Enter key for accepting data or changes.	-
	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.	-
	Allows you to enter additional Data.	Page 25
	Scroll down. Also enter Total mode.	Page 10
	Scroll up. Also enter Target mode.	Page 32
	Scroll left. Also selects the Print functions.	Page 64
	Scroll right. Also change Product.	Page 23
	Tip-off weighing.	Page 52

	Adds the current load to the total. Also toggles into Auto Add mode.	Page 13
	Clears the short total for the current product.	Page 19
	Zeroes out the current load.	Page 15

2 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 13.

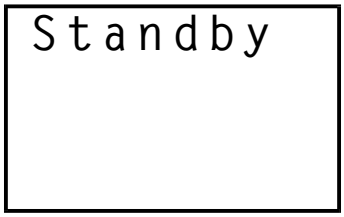
Switching On

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

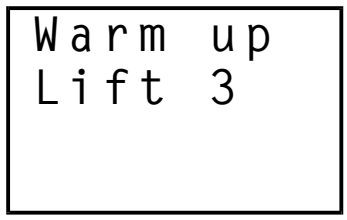
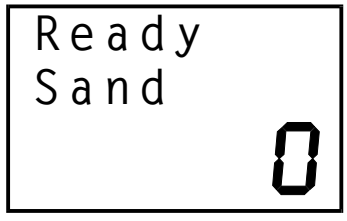
The Loadrite has a 'standby' mode which is similar to turning the Loadrite off.

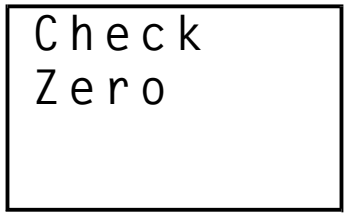
To put the Loadrite into standby press , the EXIT key, when in the **Ready** mode. To restart the Loadrite, press any key.	

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 over an hour.

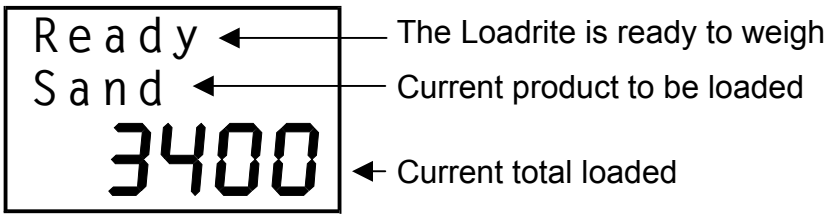
Raise the empty bucket or forks past the trigger point three times.	
The Loadrite beeps at each lift and displays the count down from 3. After the third lift, the **Ready** screen is displayed and the screen may look like this.	

If it is time to check zero, the Loadrite will display the **Check Zero** message to remind you. More information about **Ready** screen and **Check Zero** screen will be covered later in this manual.	

The Ready Screen

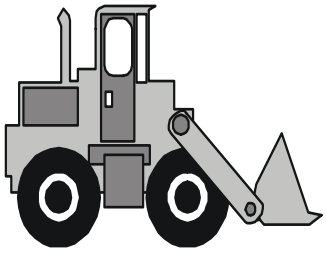
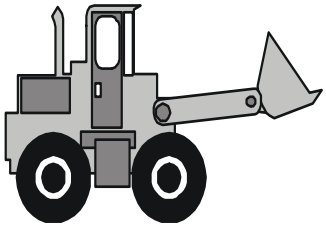
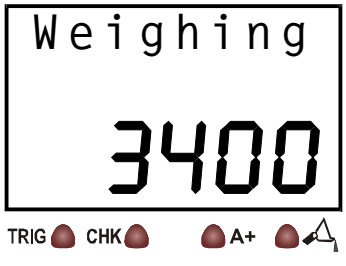
The Ready screen shows the product name and the short total for that product. The short total is simply the sum of loads since you last cleared the total.

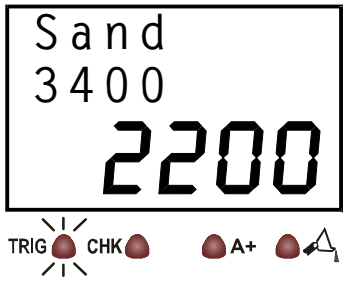
When the Ready screen is displayed, the Loadrite is in Total mode and is ready to weigh. Note that **Sand** in the below example represents the current product of choice. Your Loadrite may be configured differently, and hence, a different product name may appear on the screen.



Weighing a Load

(Weights shown are examples only)

Loadrite is ready to weigh sand. (Current total 3400)		
Raise the load smoothly past the trigger point using normal engine revs. The bucket must be fully rolled back during weighing.		

A short time later, the Loadrite beeps, turns the TRIG indicator light on and displays the load lifted (2200).		

The trigger point is where the metal plate passes the body of the trigger.

Static Weigh function

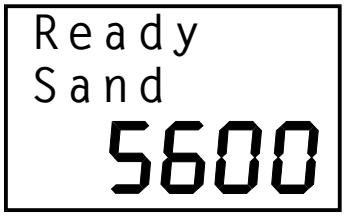
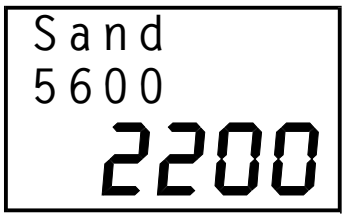
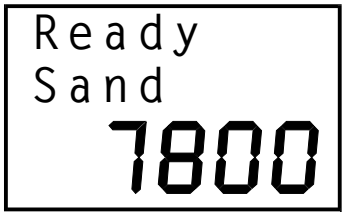
The Loadrite has an option known as ‘Static Weigh’. When this is used, the weight display is always ‘live’ and no trigger is used.

The ‘Trigger’ light is used to indicate that the weight being measured is ‘stable’ (not changing too much) and therefore can be Added, Subtracted or Zeroed.

Your Loadrite dealer will have configured the Static Weigh function if required. Other functions described in this manual operate in a similar manner, regardless of whether Static Weigh is being used.

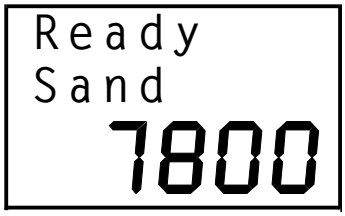
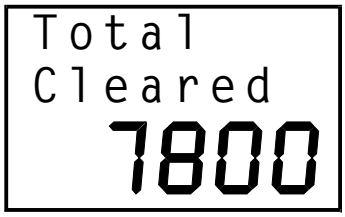
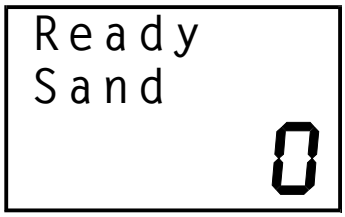
Adding a Load

(Weights shown are examples only)

Before lifting: (Current total 5600)	
Raise the load smoothly past the trigger point using normal engine revs. The Loadrite beeps and displays the load. (Weight of load 2200)	
Press ADD. The Loadrite updates the total and returns to the **Ready** state. (New total 7800)	

Clearing the Short Total

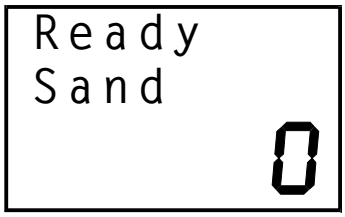
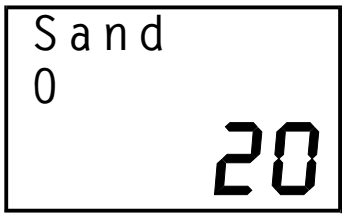
(Weights shown are examples only)

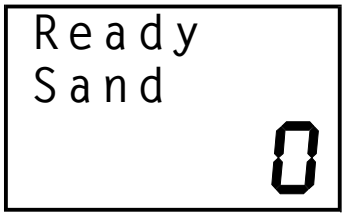
When you want to reset the short total to zero (e.g. after loading a truck) ready for another loading operation, Press CLEAR .	
The Loadrite displays **Total Cleared** for a few seconds, clears the short total for the current product and then …	
…returns to the **Ready** screen.	

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)

Before lifting: Make sure that the bucket is empty and fully rolled back.	
Raise the bucket smoothly past the trigger point. The Loadrite beeps and displays the load.	

Press ZERO . The Loadrite performs the zero adjustment and returns to the **Ready** state.	

More detailed information about *Zeroing* can be found on page 15.

3 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.

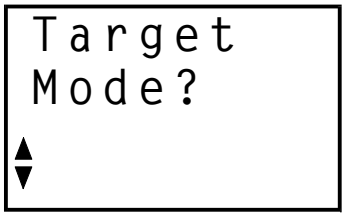
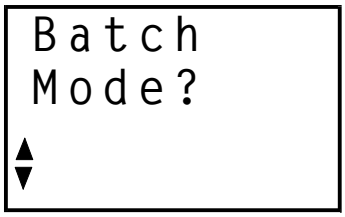
Mode	Description
Total	As you add bucket loads, the weights are added to the totals. The short total is displayed.
Target	A target weight is entered into the Loadrite. As you add bucket loads, the remaining value to reach the target is displayed.
Batch	Allows you to weigh and load different products according to a predefined recipe that specifies the required proportions. You enter the grand batch target. Loadrite will work out individual product weights needed.
Mix	Similar to Batch mode except that the grand target is not required. You load the first product to a certain amount. Loadrite will work out how much you need for the other products in the mix, based on the predefined recipe.
Blend	Allows you to load fixed numbers of bucketful's of different products according to a predefined recipe.

The normal mode of operation is Total mode, which uses the **Ready** screen. To return to Total mode from any of the other modes, press .

For Batch/Mix/Blend mode, you will return to Total mode when you clear the grand total, or when you select a product that is not in the recipe.

Changing to Target, Batch, Mix or Blend mode

If more than one of the above modes are enabled, you must first select the mode you want to enter.

From the **Ready** screen, press TARG. Press ▲ ▼ to scroll to the required mode and then …	
… press ENT YES to accept. **Note:** if your Loadrite has only one of Target, Batch or Blend mode, there is no need to scroll - simply press TARG to access the required mode.	

Short and Long Totals

The Loadrite keeps a total of the bucket weights that you add. For each product, 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. To view the Long Total, press DEF 3. (See page 19.)

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. 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 15).

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.

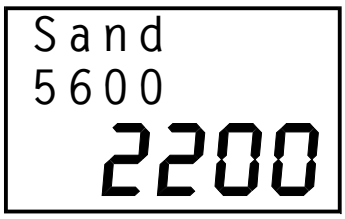
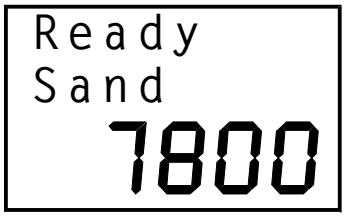
4 Weighing Procedures

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)

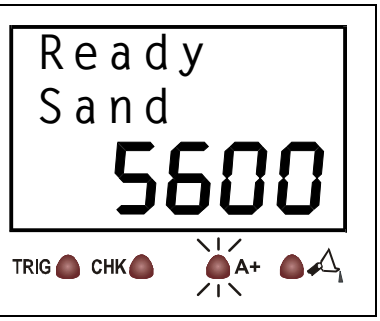
Before the load is lifted: (Current total 5600)	
Raise the load smoothly past the trigger point. The Loadrite beeps and displays the load. (Weight of load 2200)	
Press . The Loadrite updates the total and returns to the **Ready** state. (New total 7800)	

The Loadrite has an option to use a remote add button. If fitted, the remote add button is normally mounted on the lift lever.

In Target mode, the display is different. For details, see *Target Mode* on page 32.

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.

The Auto Add indicator light illuminates when the Loadrite is in Auto-Add mode.	

To turn on/off auto add function

1. Press MNO 6 to access user menu.
2. Use ▲ ▼ to scroll to **Auto Add**.
3. Press ENT YES to select.
4. Use ▲ ▼ to adjust the setting.
5. Press ENT YES to accept the setting.

If Auto Add is on:

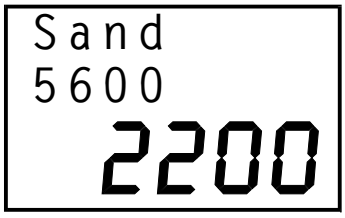
- The procedure for zeroing is different. See page 17.

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)

Before the load Is lifted: (Current total 5600)	
Raise the load smoothly past the trigger point. The Loadrite beeps and displays the load. (Weight of load 2200)	
Press PQRS 7. The Loadrite updates the total and returns to the **Ready** state. (New total 3400)	

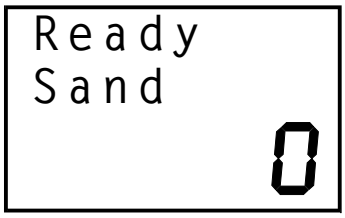
In Target mode, the display is different. For details, see *Target Mode* on page 32.

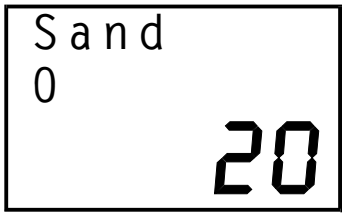
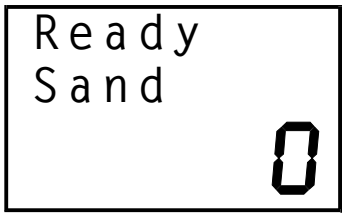
Zeroing

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

Before lifting: Make sure that the bucket is empty and fully rolled back. The loader must be on level ground.	

Raise the bucket smoothly past the trigger point using normal engine revs. The Loadrite beeps and displays the load. (Example weight 20)	
Press the ZERO key. The Loadrite performs the zero adjustment and returns to the **Ready** state.	

Large ZERO Error

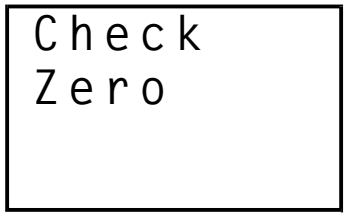
If the weight is greater than 5% of full scale, when you press ZERO, the Loadrite prompts **Bucket Empty?** If it is, press **ENT** which will zero the empty bucket. Pressing **EXIT** will not zero the scale

If the weight is greater than 10% of full scale, when you press ZERO, 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:

Before lifting: Press the ZERO key.	Zero Lift
Raise the empty bucket smoothly past the trigger point. The Loadrite beeps and performs the zero adjustment.	Zero Updated

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 14.

Recalling Last Load

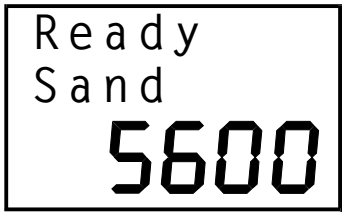
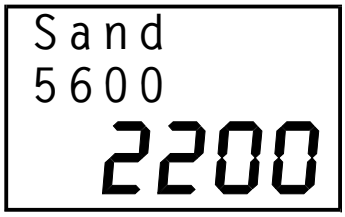
The Recall function is equivalent to lifting the same load again and can be used to correct mistakes.

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)

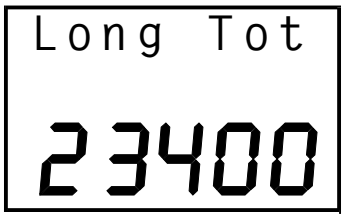
Current total 5600. Press GHI 4.	
The Loadrite beeps and displays the last load. (Weight of last load 2200)	
If the last action was an “add”, you can subtract. If the last action was a “subtract”, you can add. (Example: subtracting a load that was previously added, new total 3400)	

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

Viewing Long Total

To view the Long Total for the current product

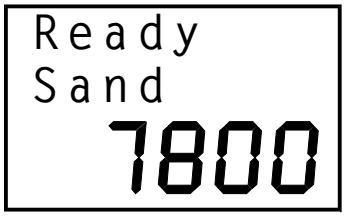
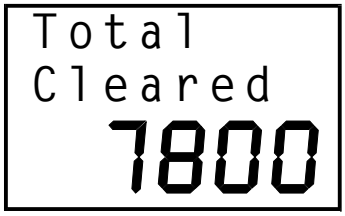
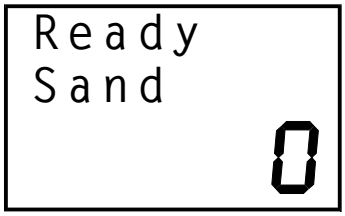
(Weights shown are examples only)

In **Ready** screen, press DEF 3. After a few seconds, the Loadrite automatically returns to the **Ready** screen.	

Clearing Totals

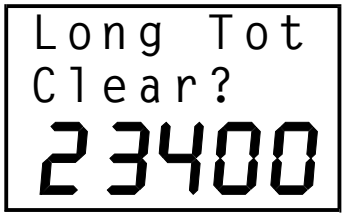
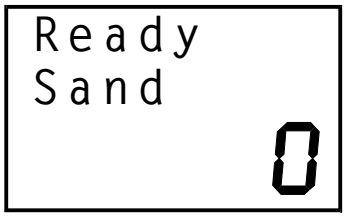
To clear the Short Total for the current product

(Weights shown are examples only)

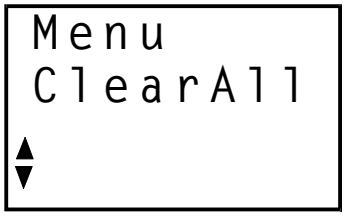
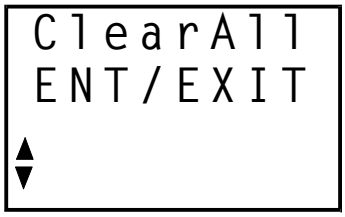
In the **Ready** mode, press CLEAR.	
The Loadrite displays **Total Cleared** for a few seconds, clears the Short Total for the current product and then …	
… returns to the **Ready** screen. The next ADD operation starts a new Short Total for this product.	

To clear the Long Total for the current product

(Weights shown are examples only)

In the **Ready** mode, Press DEF L+ 3 . The Loadrite displays the Long Total.	
Press CLEAR . The Loadrite asks you to confirm the clear	
Press ENT YES to confirm. The Loadrite displays **Long Tot Cleared** for a few seconds and then returns to the **Ready** screen. Note that the Short Total is also cleared for consistency.	

To clear all Long Totals in one go

Press MNO 6 to display the menu and use ▲ ▼ to scroll to the **Clear All** screen. Press ENT YES.	
The Loadrite displays a prompt for you to confirm the clear operation. Press ENT YES again to clear all totals or EXIT to return to the menu without clearing.	

If the Loadrite has a printer connected, the Long Totals are printed together with a grand total before being cleared.

Tare Function

The Loadrite has two ways of using Tare and this is selected at time of installation. The Tare can work either with the lifted weight, or the total weight. This is explained in more detail below.

Your Loadrite dealer will set up how Tare is to operate with your machine.

Tare on Lifted weight

In this mode, the Tare function can be used, for example, to allow for the weight of a pallet. When weighing, the Loadrite automatically deducts the tare from the lifted weight and displays the net weight of the load.

Tare on Total weight

In this mode the entered Tare value is applied to the displayed Total value. The Loadrite automatically adds the total for the currently product to the Tare value and displays this value.

This mode if useful when loading vehicles which display their Tare weight and maximum weight. The operator enters the Tare value into the Loadrite, then loads the vehicle until the displayed total is equal to the vehicles maximum loaded weight.

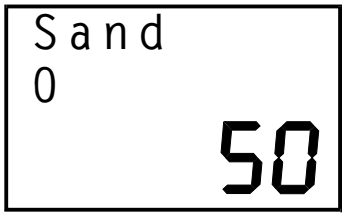
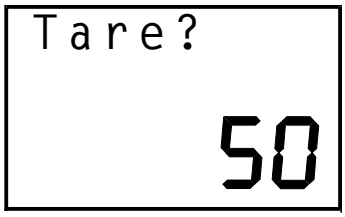
Entering a Tare weight using the keypad

You can enter a tare using the keypad or by measuring the weight. To enter a Tare with the keypad, do the following steps. (When Tare is set to work on the Total, the Tare value is normally entered with the keypad).

Press JKL 5.	Tare? 0
Key in the tare weight and press ENT YES to accept.	Tare? 50

Measuring a Tare weight

A Tare weight can be measured by the Loadrite. This is common when finding the Tare weight of a pallet on the forks of a loader. (It is not normal to measure the Tare weight when the Tare value is set to work on the Total).

Lift the empty pallet past the trigger point. The Loadrite beeps and displays the weight.	
Press JKL 5. The Loadrite displays the measured weight on the **Tare** screen.	
If necessary, edit the weight using the keypad. Press ENT YES to accept.	

To turn <u>on</u> the function, enter a tare weight. To turn it <u>off</u>, enter a tare of zero.

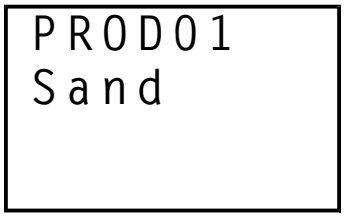
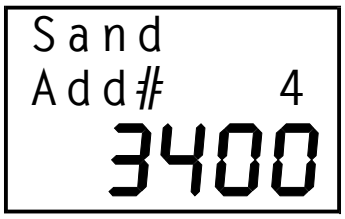
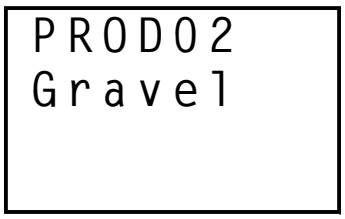
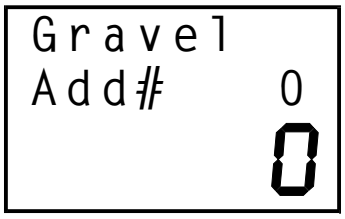
5 Product Management

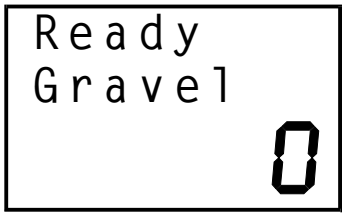
Loadrite supports up to 30 products. Each product is associated with a product number, product name, short total, long total and add bucket counter. The product info screen enables you to manage your products.

The product info screen not only allows you to select a different product, but also displays information about the product before you select it.

To select a different product

(Weights and product names are examples only.)

Ready screen: Press PROD.	
The Loadrite will first display the product number along with the product name. Then, the Short Total and the number of buckets added will follow. Product index = 1 Product name = Sand Bucket added = 4 Short total = 3400	 
Press ▲ ▼ to scroll through the products, or key in a product number directly.	 

Press ENT YES to select the product and return to the **Ready** screen.	

6 Data

If this feature is enabled, the Loadrite allows you to enter five data fields (up to eight characters) that provide additional information to the weight data. Each field has a label to identify it and can be configured as a specific data type (e.g. alphanumeric, numeric or auto-increment). The specific labels and data type for your Loadrite are set up at installation time.

Typical labels might be, for example:

Customer for Data 1

Docket for Data 2

Truck for Data 3

If you have the appropriate equipment installed, this information can be stored in the LD940 MMS data logger and/or printed with the weight data.

Data Edit

Before loading a truck, for example, you can enter the data as follows.

In **Ready** mode, press DATA. The Loadrite displays the first field and prompts you to enter a value.	Customer 0
Suppose the customer is 1234 1 ABC 2 DEF 3 GHI 4 ENT YES Note that pressing ENT YES means accepting the displayed value for the data field.	Customer 1234
The Loadrite automatically displays the next data field and prompts you to enter a value.	Docket 0
Loadrite will automatically return to the **Ready** screen, as soon as all data fields have been accepted.	

You may have up to five data fields available, depending on how the Loadrite has been set up at installation time.

Alphanumeric Data

The Loadrite has an option to enter Alphanumeric (Alpha) data. This option is enabled at installation time. The Loadrite uses its telephone style keypad to allow letters to be entered.

When a number key is pressed, a digit is displayed. If the same number key is pressed again, the first letter on that key is displayed. If the key is pressed again the second letter is displayed and so on. For example, if the

key is pressed repeatedly, the characters displayed in sequence are '2', 'A', 'B', 'C', 'a', 'b', 'c', '2', 'A' and so on.

In this way names can be entered for customers, trucks etc.

Sometimes a name will have two sequential letters on the same key. For example the letters 'D' and 'E' in the word 'DEAKON. After the 'D' has been entered (by pressing the

key twice), wait a second or two. The cursor will automatically shift and be ready for your next character. You can then enter 'E' by pressing the

key again.

Name Speed Dial and Scrolling

The Loadrite keeps a list of names for the data fields i.e. Customer List. You can either use ▲ ▼ keys to scroll through the list, or dial the index to the list to recall the name.

Suppose we have a customer list as follows:

Joe
Deakon
Smith
Johnson
Adams

Use scrolling to recall Smith:

- Press

- Press ▲ ▼ until you see Smith on the screen, then press

Use speed dial to recall Smith:

- Press DATA
- You can press DEF 3 (the 3rd name on the list), then ENT YES

The data list can be printed out via Print Function: Print Data List as described on page 68.

Name speed dial requires the Data Index option to be enabled at installation.

Data List (name list) will not store names starting with numbers, if name speed dial function is in active (Data Index option is enabled).

Auto target value look up

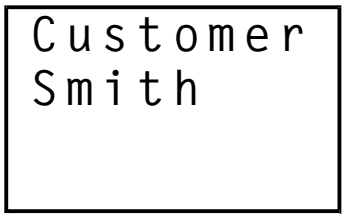
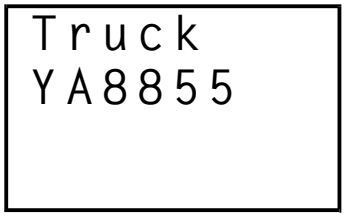
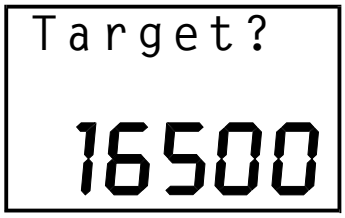
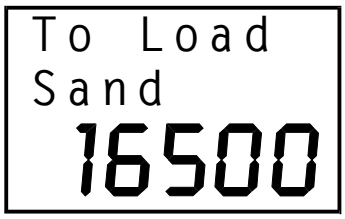
This function enables you to store a list of target values (for different trucks). You can recall the target value from memory by either entering a number or scrolling through a list of truck names.

Use scrolling to recall truck target value:

Suppose we have a truck and target list as follows. We configure Data 3 to store truck plate numbers and Data 4 to store the corresponding target values. Data 3 itself is an alphanumeric field and is set up as target reference. Data 4 is set up as target list.

Data 3: Truck	Data 4: Target
AGT175	15000
AUQ887	16500
BQ1001	15500
BQ1002	15500
YA8855	12000

Suppose we want to recall the target value for Truck AUQ887.

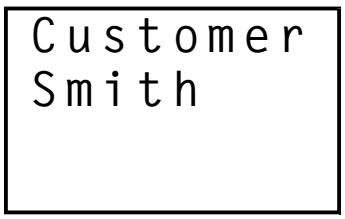
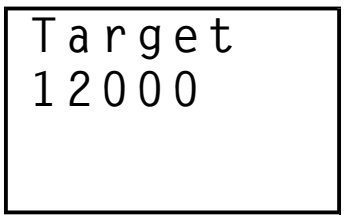
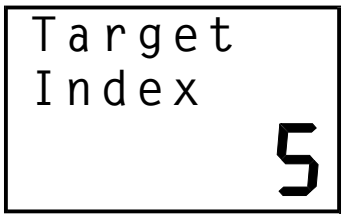
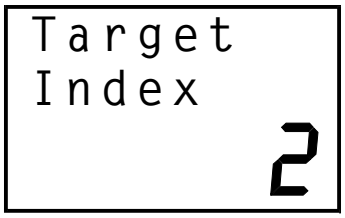
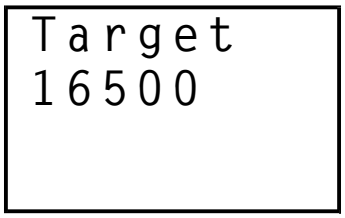
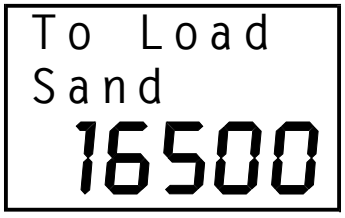
In **Ready** mode, press DATA. You will be prompted for the first data field (Data 1: Customer). Since we use Data 3 for Truck number, you must first enter data for Data 1 and Data 2.	
When you get to Data 3 (Truck number), the last truck will be displayed. Press ▲ ▼ until you see AUQ887 on the screen, then press ENT YES to select the truck.	
Loadrite will then automatically use AUQ887 as reference and look up the corresponding target value. When prompted to confirm, press ENT YES to accept it. You may enter a new target value. If changed, the new value will be saved.	
You will then return to the **To Load** screen.	

Use indexing to recall truck target value:

Suppose we have a truck target list as follows. We configure Data 4 as target list with index function enabled. The order of the list is important as we use the index numbers to represent the trucks.

Index	Data 4: Target
1 (AGT175)	15000
2 (AUQ887)	16500
3 (BQ1001)	15500
4 (BQ1002)	15500
5 (YA8855)	12000

Suppose we want to recall the target value for Truck AUQ887. This truck is the second item on the list. It makes it Truck #2.

In **Ready** mode, press DATA. You will be prompted for the first data field (Data 1: Customer). Since we use Data 4 for Target list, you must first enter data for Data 1, Data 2, and Data 3.	
When you get to Data 4 (Target), the last target value and the last index number will be displayed.	 
Enter the index (2 for this example, as Truck AUQ887 is Truck #2), and then press ENT YES.	
Loadrite will use the index 2 and look up the corresponding target value.	
You will then return to the **To Load** screen.	

Auto tare value look up

This function is similar to Auto target value look up, except that it handles tare values obviously. You can recall the tare value from memory by either entering a number or scrolling through a list of truck names. The procedures are the same as the Auto target value look up.

Auto-increment

Auto-increment function is an optional that is selected during installation. If auto-increment is enabled, data value will be made to increment automatically when Short Total is cleared. The data value can only be viewed but cannot be edited.

Odometer (Distance/Mileage Recorder)

Odometer function is an option that is selected during installation. With properly installed and configured hardware, the data field can be used to display the odometer/distance/mileage value. If enabled, the data field will be updated regularly with the current odometer/distance/mileage value. The data value can only be viewed but cannot be edited.

Automatic Data Prompt

Automatic Data Prompt is an optional function that is selected during installation. If enabled, the Loadrite automatically prompt for data field entries when a new product is selected.

Data Suspend

Data Suspend is a feature that allows operator to temporarily suspend all data values (except odometer/distance/mileage value) and set them to 0 (zero). Data Suspend is an optional function that is selected during installation.

To suspend data

When the Loadrite is in Ready mode, press DATA. The Loadrite displays the current setting.	Customer Joe

Press CLEAR key and then enter 0. Loadrite will then display a message to confirm that the Data Suspend has been activated.	Customer 0

During the suspension period, the Loadrite will:

- exclude all data fields in printing, if printer is enabled
- override all data fields to 0 in data logging, if MMS data logger feature is enabled.

To resume data (turn off suspend mode)

When the Loadrite is in Ready mode, press . The Loadrite displays the last setting.	Customer Joe
Press to accept it. Or, enter a new name, if desired. Loadrite will then display a message to confirm that the Data Suspend has been de-activated.	Customer Joe

As soon as the Data Suspend function is de-activated, the Loadrite will resume normal operation.

7 Target Mode

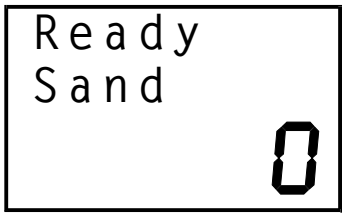
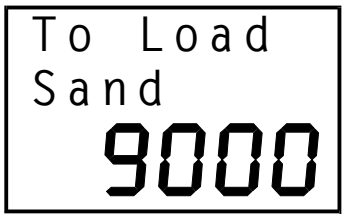
Target mode is an optional feature that is selected during installation. This feature provides an easy way to load up to a target weight for a product in a series of lifts. In Target mode, the Loadrite displays the “To Load” value, which is the remaining amount to reach the target.

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)

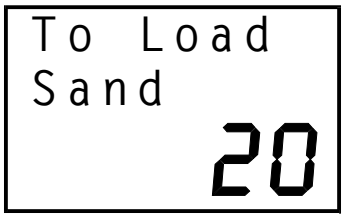
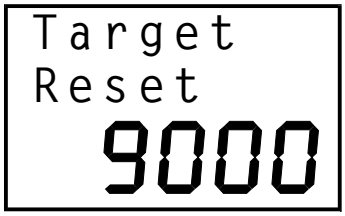
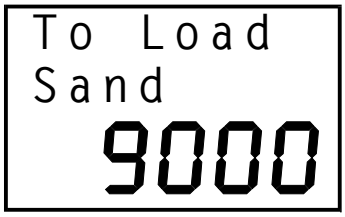
You can also change the current target when entering target mode. This is explained below.
(Weights shown are examples only)

First clear the previous total. (*Clearing Totals* is described on page 19.) The Loadrite is in Total mode at this point.	
Press TARG. The Loadrite displays the last target value used.	
Suppose the new target is 9000. Use the numeric keys to enter 9000, and press ENT YES to accept it.	
The Loadrite displays **Target Updated** for a few seconds and then returns to the **To Load** screen. You are now in Target mode.	

As your “To Load” value approaches to 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.

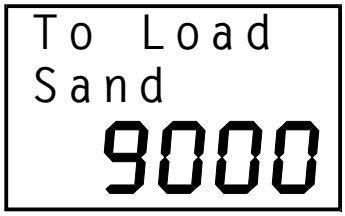
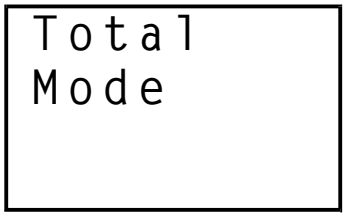
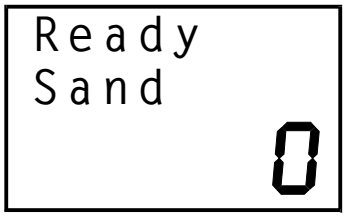
To reset to Target

When you are finished loading a truck, you need to clear the total or reset the target.
(Weights shown are examples only)

Press CLEAR .	
The Loadrite displays **`Target Reset`** for a few seconds and then …	
… resets the display to the current target.	

To return to Total mode

(Weights shown are examples only)

To Load message indicates that we are in target mode.	
Press to go to total mode. The Loadrite displays **Total Mode** for a few seconds and then …	
… return to total mode. The message **Ready** is shown along with the current total.	

8 Batch Mode

Batch mode allows you to weigh and load products according to a predefined recipe. You enter the target weight of the batch, the Loadrite will work out exactly what you need for each product.

The recipe can contain up to ten products. It specifies the relative amount of each product in a batch.

When in Batch mode, the Loadrite displays the **To Load** value for each product as you weigh them.

Example

Suppose that a recipe of three products has been entered as follows:

Product	Proportion
Sand	4
Gravel	2
Pumice	1

When loading the three products, you specify the total load required. An example might be 7000kg. The Loadrite automatically calculates the amount of each product required, which in this case would be:

Sand 4000kg

Gravel 2000kg

Pumice 1000kg

As you weigh and load the products, the Loadrite maintains the **To Load** amount for each product in a similar way to target mode. You can change from one product to another at any time during weighing in order to mix the products.

The Batch Screen

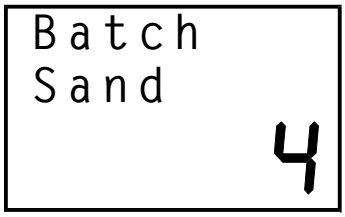
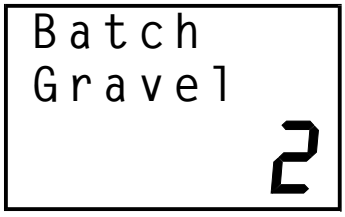
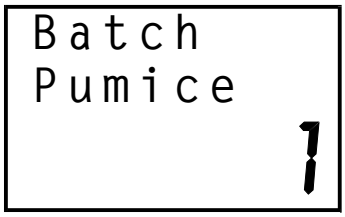
All Batch weighing operations are started from the Batch screen.

From the **Ready** screen, press TARG. **Note**: if Target or Blend modes are also available, you may need to scroll to **Batch** mode and then press ENT YES to select it.	Recipe ENT:OK

From the **Batch** screen, the following operations are available.

To …	Press …	See page …
Change the recipe.	CLEAR	38
Accept the recipe. Enter the batch total.	ENT YES	39
Start weighing.	ENT YES	40
Return to the **Ready** or **To Load** screen.	EXIT	
Print the current recipe.		

Viewing the Current Recipe

The Loadrite automatically scrolls through the recipe details after you have entered the **Recipe** confirm screen.	
The Loadrite briefly displays the proportion of each product in turn. (Example display: 4 units of sand, 2 units of gravel and 1 unit of pumice)	  

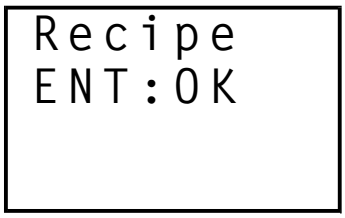
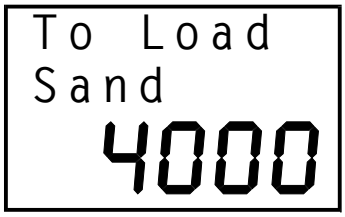
Changing the Recipe

Except for the very first time that a recipe is entered, the current recipe must be cleared before you can enter a new one.

Press TARG and if necessary, scroll to display the **Batch** screen.	Recipe ENT:OK
Press CLEAR followed by ENT YES to confirm.	Recipe Clear?
The Loadrite briefly displays **Recipe Empty** and then….	Recipe Empty
… displays the screen where you select the products to make up the recipe Use ▲ ▼ keys, or key in a product number, and press ENT YES to select the first product.	Prod#? Sand ▲▼
Key in the required proportion of this product and press ENT YES. In this example, 4 units of product 3 (sand) have been keyed in.	Sand 4.0
The Loadrite automatically moves on to the next product number in sequence. If this is not the next product required, select the correct one and press ENT YES.	Prod#? Gravel ▲▼

Repeat the procedure of selecting a product and entering the proportion required until the recipe is complete. Then press EXIT to return to the Batch screen.

Entering the Batch Total

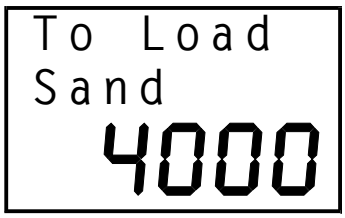
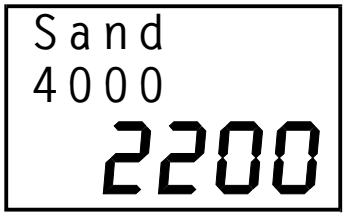
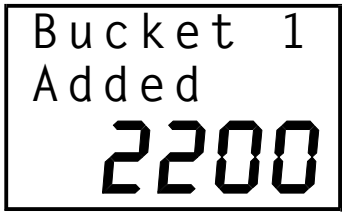
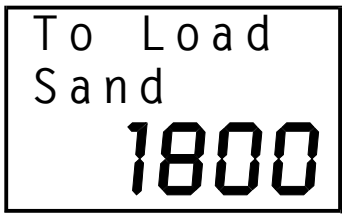
Press TARG and if necessary, scroll to display the **Batch** screen, then press ENT YES.	
The Loadrite displays the last Batch target value.	
If necessary, key in a new Target value. Press ENT YES to accept.	
The Loadrite beeps and returns to the **To Load** screen with the target value for the first product displayed.	

Batch Weighing

To start a Batch weighing operation, you need to access Batch mode and enter or accept the batch total. See *Entering the Batch Total* above.

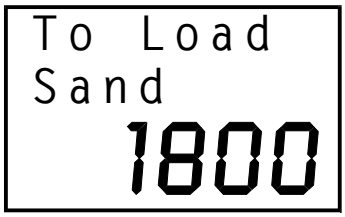
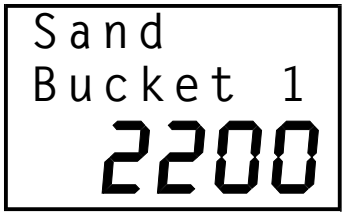
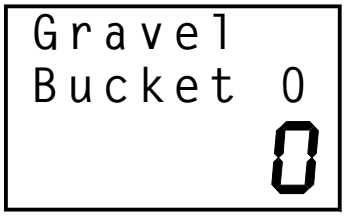
During Batch weighing, the Loadrite maintains a "To Load" target for each product in the recipe. Each time that you add a weight, the “To Load” value is reduced by that weight.

You can load the products in any order and switch between products during weighing.

The Loadrite displays the **To Load** screen with the target value for the first product.	
Raise the load smoothly past the trigger point. The Loadrite beeps and displays the load. (Weight of load 2200)	
Press . The Loadrite briefly displays the number of buckets loaded for this product and then …	
… updates the total and returns to the **To Load** screen. (Target now 1800)	

Changing Product

You can change product at any time (the Loadrite maintains the individual totals for each product).

Press PROD.	
The Loadrite displays the number of buckets loaded, the product name and the Short Total for that product.	
Use ▲ ▼ keys, or key in a product number, and press ENT YES to select the next product. (Only the products in the recipe are available.)	
Load this product and continue on to the next.	

Clearing the Batch Totals

To finish a Batch weighing operation, press CLEAR.

The Loadrite clears the totals for all the products in the recipe and returns to the **Ready** screen in Total mode.

Returning to Total Mode

The Loadrite automatically returns to Total mode after a CLEAR operation.

You can also return to Total mode by pressing .

9 Mix Mode

Mix mode is similar to Batch mode except that target value for the mix is not required. You load the first product to a certain amount. When you change to the next product, the Loadrite will work out exactly what you need to load based on the predefined recipe.

The recipe can contain up to ten products. It specifies the relative amount of each product in a batch.

When in Mix mode, the Loadrite displays the word **Mix** to indicate that you are in Mix mode and loading the primary product. When you change to other product in the recipe, the Loadrite displays **To Load** value for the product.

Example

Suppose that a recipe of three products has been entered as follows:

Product	Proportion
Sand * First item in the recipe is the primary product.	4
Gravel	2
Pumice	1

Suppose that you have loaded 4000 kg of the primary product sand. The Loadrite automatically calculates the amount of other product required, which in this case would be:

Sand 4000kg

Gravel 2000kg

Pumice 1000kg

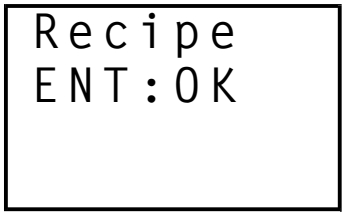
As you weigh and load the products, the Loadrite maintains the **To Load** amount for each product in a similar way to target mode. You can change from one product to another at any time during weighing in order to mix the products.

The Mix Screen

All mix-weighing operations are started from the Mix screen.

From the **Ready** screen, press TARG.

Note: if Target or Batch modes are also available, you may need to scroll to **Mix** Mode and press ENT YES to select it.



From the **Mix** screen, the following operations are available.

To …	Press …
Change the recipe	CLEAR
Start weighing	ENT YES
Return to the **Ready** or **To Load** screen	EXIT
Print the current recipe	

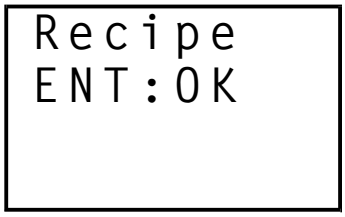
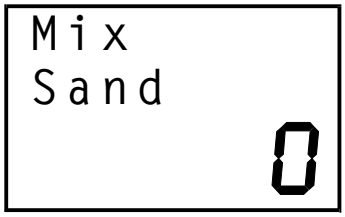
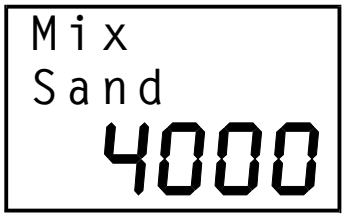
Viewing and changing the recipe are explained in *Batch Mode* on page 35.

Mix Weighing

To start a Mix weighing operation, you need to access Mix mode.

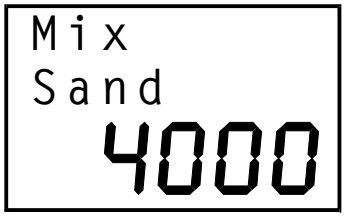
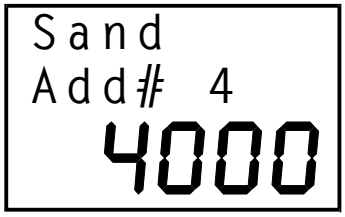
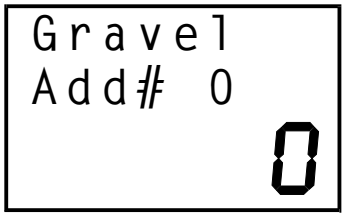
During Mix weighing, the Loadrite maintains a "To Load" target for each product (except the primary product) in the recipe. Each time that you add a weight, the “To Load” value is reduced by that weight.

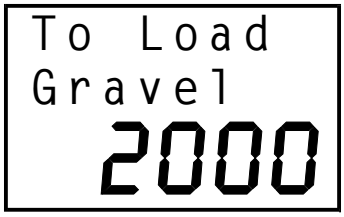
You can load the products in any order and switch between products during weighing.

From the **Ready** screen, press TARG to access the **Mix** screen. Press ENT YES to accept the recipe (or press CLEAR to enter a new recipe).	
The Loadrite displays the primary product and the current total. For primary product, the Loadrite is in normal count up mode.	
Suppose that we have loaded 4000 kg of Sand. We are ready to load another product in the mix.	

Changing Product

You can change product at any time (the Loadrite maintains the individual totals for each product).

Press PROD.	
The Loadrite displays the number of buckets loaded, the product name and the Short Total for that product.	
Use ▲ ▼ keys to select the next product. Press ENT YES to accept. (Only the products in the recipe are available.)	

Load this product and continue on to the next.	

Clearing the Mix Totals

To finish a Mix weighing operation, press .

The Loadrite clears the totals for all the products in the recipe and returns to the **Ready** screen in Total mode.

Returning to Total Mode

The Loadrite automatically returns to Total mode after a CLEAR operation.

You can also return to Total mode by pressing .

10 Blend Mode

Blend mode is similar to Batch mode except that the recipe contains the total number of buckets of each product and you do not enter a target load.

When weighing, the Loadrite tracks the number of lifts of each product and automatically changes to the next product when the required number of buckets has been loaded.

Example

Suppose that a recipe of three products has been entered as follows:

Product	**Buckets**
Sand	6
Gravel	10
Pumice	10

During weighing, the Loadrite guides the operator through the process that will result in a total load of 26 buckets.

The Blend Screen

All blend-weighing operations are started from the Blend screen.

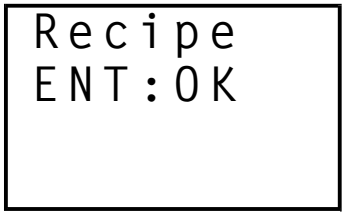
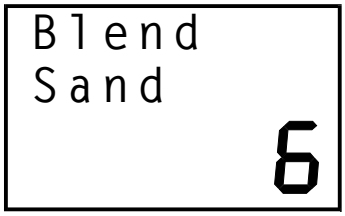
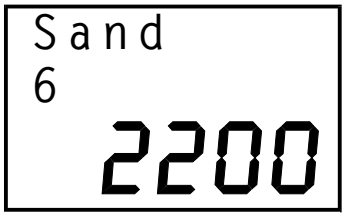
From the **Ready** screen, press TARG. **Note**: if Target or Batch modes are also available, you may need to scroll to Blend Mode and press ENT YES to select it.	Recipe ENT:OK

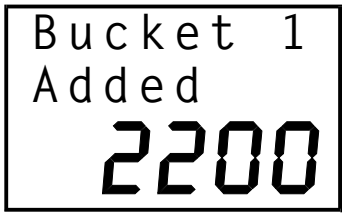
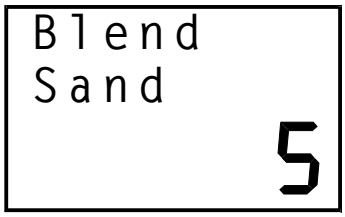
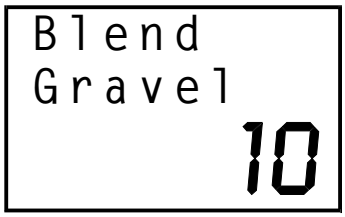
From the Blend screen, the following operations are available.

To …	Press …
Change the recipe	
Start weighing	
Return to the **Ready** or **To Load** screen	
Print the current recipe	

Viewing and changing the recipe are explained in *Batch Mode* on page 35. Remember that the Blend recipe contains the actual number of buckets of each product rather than a proportion of the whole load.

Blend Weighing

From the **Ready** screen, press to access the **Blend** screen. Press to accept the recipe (or press to enter a new recipe).	
The Loadrite displays the first product and how many buckets need to be added.	
Raise the load smoothly past the trigger point. The Loadrite beeps and displays the load. (Weight of load 2200)	

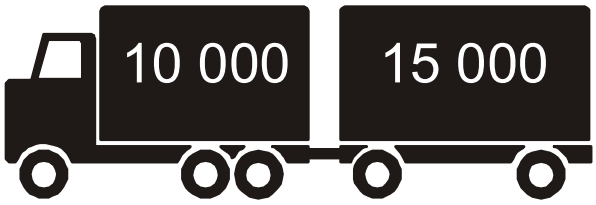
Press . The Loadrite briefly displays the number of buckets loaded for this product and then …	
… updates the short total and returns to the **Blend** screen. The To-load bucket count decrements to 5.	
Continue to load buckets of the first product. After the last bucket the Loadrite automatically displays the second product name for you to start loading that product. After the last bucket of the last product in the sequence is added, the Loadrite starts from the beginning of the sequence again.	

11 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.

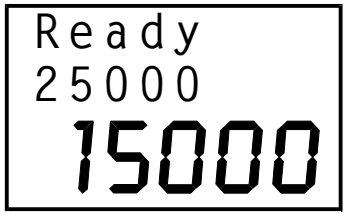
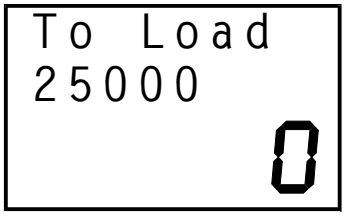
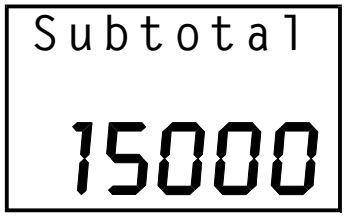
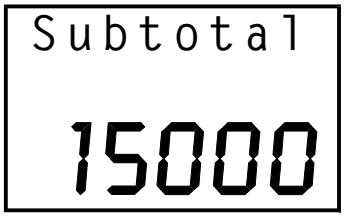
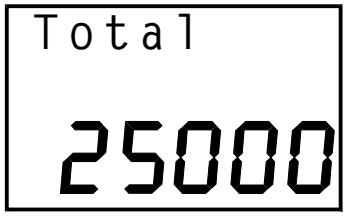
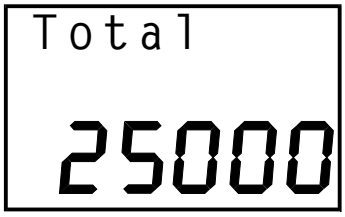
Example: Suppose we are to load a truck with a trailer. The truck can carry 10 000 and the trailer 15 000, the total therefore being 25 000.



(Weights shown are examples only)

EXAMPLE	TOTAL MODE	TARGET MODE
At start: Current weight = 0 Weight needed = 10 000	Ready Sand 0	Ready Sand 0
To load 10 000 into the truck…		TARG Target = 10 000 To Load Sand 10000
Add # 1: 5 000:	Ready Sand 5000	To Load Sand 5000

EXAMPLE (continued)	TOTAL MODE	TARGET MODE
Add # 2: 5 000 The truck is full with a weight of 10 000.	Ready Sand 10000	To Load Sand 0
Go into Split Mode: Press . At present we have: Truck Total = 10 000 Trailer Total = 0 Grand Total = 10 000	Subtotal 10000 10000 Ready 10000 0	Subtotal 10000 0 To Load 10000 10000
To load 15 000 into the trailer…		Target = 15 000 To Load 10000 15000
Add # 3: 5 000 (First add towards the trailer). This gives us: Truck Total = 10 000 Trailer Total = 5 000 Grand Total = 15 000	Ready 15000 5000	To Load 15000 10000
Add # 4: 5 000 (Next add towards the trailer). This gives us: Truck Total = 10 000 Trailer Total = 10 000 Grand Total = 20 000	Ready 20000 10000	To Load 20000 5000

EXAMPLE (continued)	TOTAL MODE	TARGET MODE
Add # 5: 5 000 (Final add towards the trailer). This gives us: Truck Total = 10 000 Trailer Total = 15 000 Grand Total = 25 000		
Press to finish loading.		
We now have: Truck Total = 10 000 Trailer Total = 15 000 Grand Total = 25 000		

Sample Printout:

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

12 Tip Off

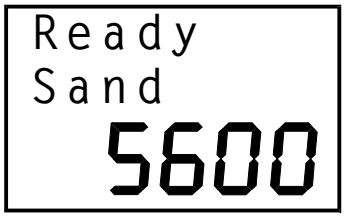
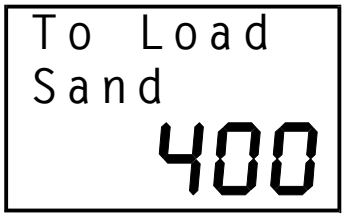
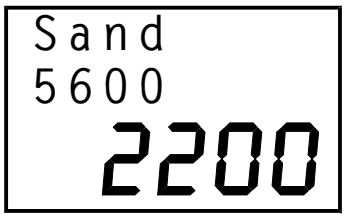
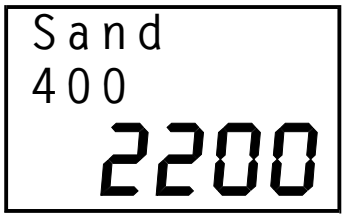
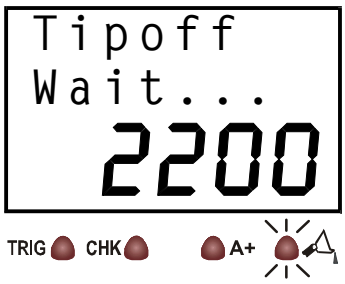
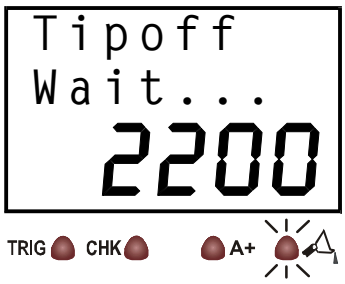
This feature allows you to load a truck to an exact value by using only part of the last bucketful.

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

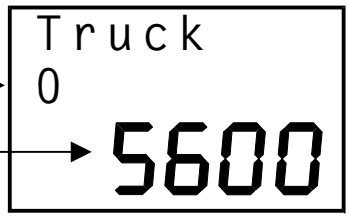
Using this method, you tip a measured amount of product from the bucket into the truck and dump the rest. The following example illustrates the weigh screen shots when in Total mode or Target mode.

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.		

To tip off into truck a weight of 400kg:

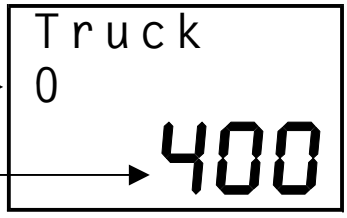
Middle number shows weight tipped off onto the truck.

Lower number shows total weight as it is being tipped onto the truck.



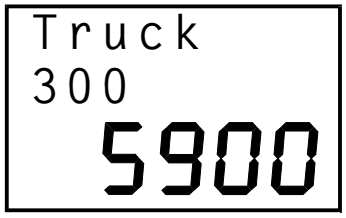
Middle number shows weight tipped off onto the truck.

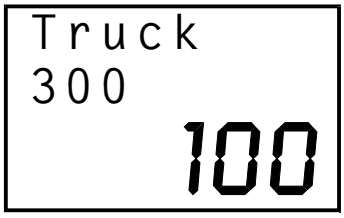
Lower number shows the weight still to be tipped onto the truck.



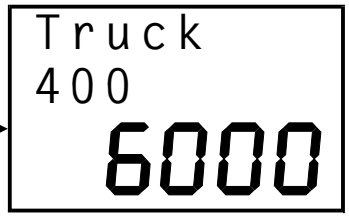
Roll the bucket partially forward, tipping product into the truck:

with 300kg tipped off so far…

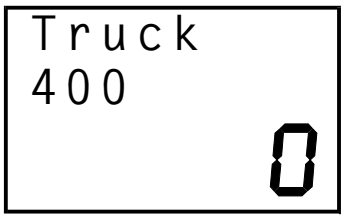




The Loadrite displays the amount that has been tipped from the bucket and the total in the truck.



The Loadrite displays the amount that has been tipped from the bucket and the weight still to be tipped onto the truck.



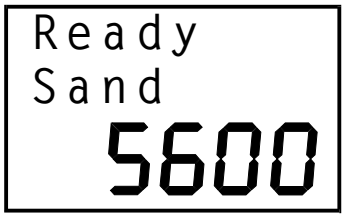
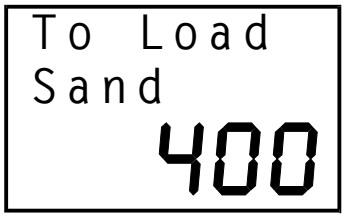
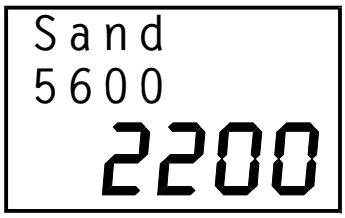
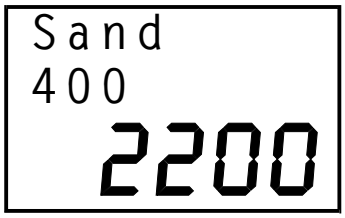
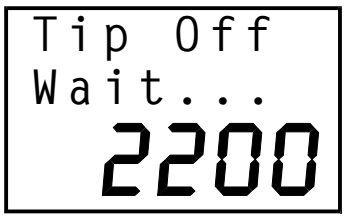
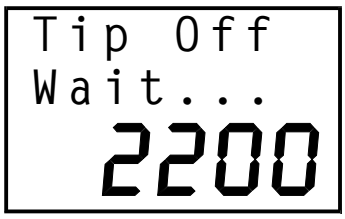
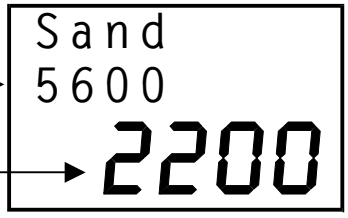
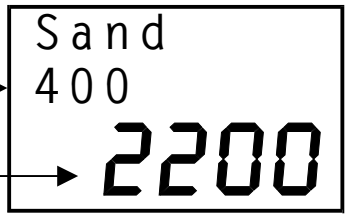
When the required truck load is reached, press

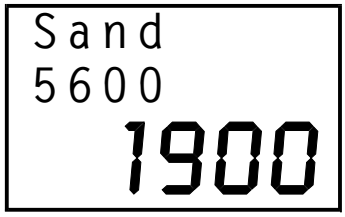
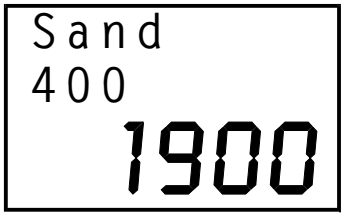
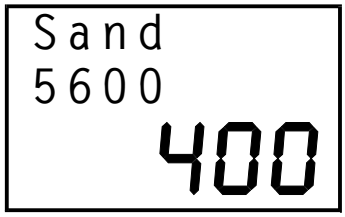
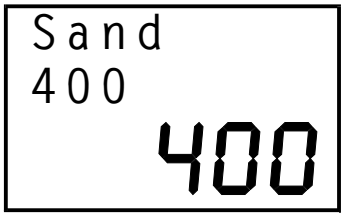
.

Finally, move away from the truck and dump any product remaining in the bucket.

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. Lower number shows 'live' weight in the bucket.		
Middle number shows target weight. Lower number shows 'live' weight in the bucket.		

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 14.

13 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)
Clock	★	Clock setting
Scale #	★	Change scale
Clear All		Clear all long totals
Auto Add	★	Auto add setting
Trigger Screen	★	Rotary trigger position screen
Module	★	LD940 Module properties
Data Edit	★	Edit data settings. Useful for overriding auto-increment number
Data List	★	Edit Data1 (Customer) list
Alarm		Turn alarm on or off
Alarm Time		Set alarm time
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 MNO 6 .
2. Use ▲ ▼ to scroll to the required option.
3. Press ENT YES 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 ENT YES.

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 MNO 6.
2. Use ▲ ▼ to scroll to **Setup**.
3. Press ENT YES to select.
4. The Loadrite prompts you to enter an access code. For special functions, key in your security code and press ENT YES.

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 78.

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 MNO 6.
2. Use ▲ ▼ to scroll to **Scale#**.
3. Press ENT YES to select.
4. Use ▲ ▼ to scroll to the desired scale number, then press ENT YES.

It is important to check zero before continuing (page 15).

Clear All Long Totals (ClearAll)

This function clears all the long totals to zero.

To clear all the long totals – refer to page 20.

Auto Add On/Off Setting (Auto Add)

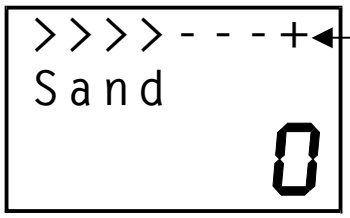
Auto Add is an optional feature that is selected during installation. If Auto-Add is enabled, the Loadrite can automatically operate the ADD function every time a load is lifted past the trigger point.

To turn on/off auto add function

1. Press MNO 6. The time is displayed.
2. Use ▲ ▼ to scroll to **`Auto Add`**.
3. Press ENT YES to select.
4. Use ▲ ▼ to adjust the setting.
5. Press ENT YES to accept the setting.

Rotary Trigger Position Screen (TrigScrn)

This function displays a bar graph that reflects the current position of the rotary trigger. It is available only if the rotary trigger is installed.



Bar graph

+ trigger point,

>>> current bucket position from ground

--- distance away from trigger point

To turn on/off rotary trigger position screen

1. Press MNO 6.
2. Use ▲ ▼ to scroll to **`TrigScrn`**.
3. Press ENT YES to select.
4. Use ▲ ▼ to adjust the setting.

5. Press ENT YES to accept the setting.

This function is only available if the Loadrite is configured to use rotary trigger.

LD941 Data Module Properties (Module)

This function is available only if the LD940 MMS data logger feature has been enabled during installation. Data Module Properties function enables you to examine the properties and the status of the data logger module connected to the Loadrite.

When activated, this function will do the following:

- Display software and hardware information of the data logger
- Perform self-test
- Display data usage

To access the Data Module Properties function:

1. Press MNO 6.
2. Use ▲ ▼ to scroll to **`Module`**.
3. Press ENT YES to select.

Data Edit (DataEdit)

Data Edit is an optional feature that is selected during installation.
This is the same Data Edit function as described in chapter 6 (page 25), except that when accessed through the Menu it allows you to over-ride any data setting, including auto-increment-type data.

To access the Data Edit function:

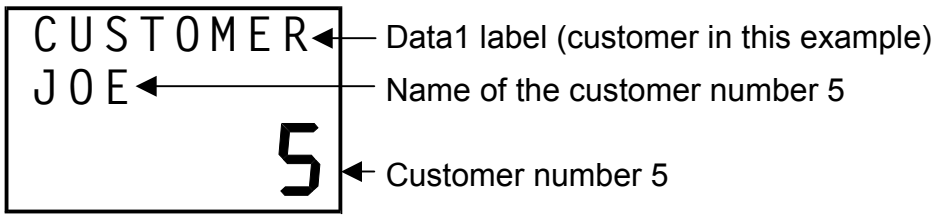
1. Press MNO 6.
2. Use ▲ ▼ to scroll to **`DataEdit`**.
3. Press ENT YES to select.

Data List (DataList)

If the Data function is enabled and Data1 is configured to work with alphanumeric data, this function will appear in the menu.

The Data List function allows you to manually edit a data list (typically a list of customer names).

For example, suppose Data1 is configured for customer name:



To access the Data List function:

1. Press MNO 6 .
2. Use ▲ ▼ to scroll to **DataList**.
3. Press ENT YES to select.

To edit an existing customer name

1. Use ▲ ▼ to scroll to the name, then press ENT YES.
2. You are now in Edit mode. Make the necessary changes.
3. Press ENT YES to accept the new name.

To add a new customer name

1. Press ADD .
2. The Loadrite will find the next available empty slot in the list and put you in Edit mode.
3. Press ENT YES to accept the new name

For your convenience, the Loadrite automatically goes to the next slot for your next new customer. If you do not have any more names to add, press EXIT to leave the Edit mode.

To clear an existing customer name

1. Use ▲ ▼ to scroll to the name.
2. Press

.
3. You will see the name disappear.
4. Press

to confirm the CLEAR operation.
5. Press any other key to abort.

Alarm Clock On/Off

This option turns the alarm clock on or off. The alarm clock will alert when the Loadrite in either Ready or Standby mode. The alarm clock will not alert if the Loadrite is powered off.

When the alarm time is reached

The Loadrite sounds an alert tone, **`Alarm Clock`** is displayed and all indicator lights flash. Press any key to stop the alarm. The alarm will stop after a few seconds.

To turn on/off the alarm clock

1. Press

.
2. Use ▲ ▼ to scroll to **`Alarm On/Off`**.
3. Press

to select.
4. Use ▲ ▼ to scroll to the desired mode, then press

.

Alarm Time Set

This option allows you to change the alarm time.

To turn on/off the alarm clock

1. Press

.
2. Use ▲ ▼ to scroll to **`Alarm On/Off`**.
3. Press

to select.
4. Use ▲ ▼ to scroll to the desired mode, then press

.

Self Test (Selftest)

Self test function tests various internal memory and devices.

To access the Self Test function:

1. Press

.
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

.
2. Use ▲ ▼ to scroll to **`Uplink`**.
3. Press

to select.

14 Print Functions

The Loadrite can print 'on-line', or store data internally for delayed printing. There is normally enough storage for up to one day, depending on usage.

If a printer is connected, all data will be printed as it is generated. This is described in the section 'Printed Data' below.

All data generated is temporarily stored in the Loadrite so that it can be printed in full later, or summary reports printed. This is described in the section 'Print Menu' on page 64.

On Power Up

Loadrite sign on	Optional

Add/Subtract performed

Weight & Sequence number	Optional
Data fields	Optional
Date / Time	Optional

Clear Short Total

Short total & Product name	Optional
Data fields	Optional
ID number (of loader)	Optional
User title (company name)	Optional
Standby messages	Optional
Date / Time	Optional

Clear Long Total

Long total & Product name	Always printed
Data fields	Optional
ID number (of loader)	Always printed
Date / Time	Always printed

Zero performed

Weight zeroed	Always printed

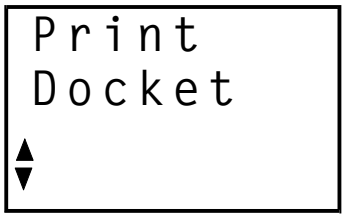
Printed Data

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.

Print Menu

Pressing the key in the **Ready** mode displays the Print menu.

Press and use ▲ ▼ to scroll to the desired option. Press to access selected option.	

The options in this menu are as follows:

	Docket
	Totals
	Loadout
★	Summary
	Special
	Copy
★	Data List
	Product Names
★	Volume Conversion Factor
★	Stand-by
★	Usage
★	Reset

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

Print Docket

Print Last Docket function prints the data stored (e.g., ADD, SUBTRACT, etc) between the two last CLEAR events. If the data is not stored, it will not be printed. For example, if the Loadrite is not configured to log ADD events, weights added will not be printed. This function requires internal storage to be enabled. All configuration of this function is set during installation.

This function will not work if CLEAR is not used as intended. For example, you are loading sand. Halfway through, second truck comes in. You switch product to rocks and start loading to the second truck (without clearing total of sand). When you run this function, you will get the adds of sand plus the adds and total of rocks.

Print Totals

This function prints the total amount of each product loaded today (since midnight).

Sample Printout:

SAND	**10320**
PUMICE	**10180**

Print Loadout

This function prints out ALL print data stored in the Loadrite memory since midnight.

This function gives a printout that is basically the same as if a printer had been connected all the time. Depending on configuration, every Add, Clear, Zero etc could be included in the printout.

Refer Sample Printout on following page.

Sample Printout:

```
Zero                    0
Add(1)               5100
Add(2)               5220
SAND                10320
CUSTOMER            SMITH
ID                    966
03 NOV 02        07:45AM
. . . . . . . . . . . . . .
PROD03             PUMICE
Zero                    0
Add(1)               5080
Add(2)               5100
Pumice              10180
CUSTOMER            ADAMS
ID                    966
03 NOV 02        07:45AM
. . . . . . . . . . . . . .
```

This function requires internal storage to be enabled. All configurations of this function are set during installation.

Print Summary

This function prints out a summary report that is grouped and summarised by Data1. If Data1 is a customer field, this function generates a customer total report using the data stored in the memory since midnight.

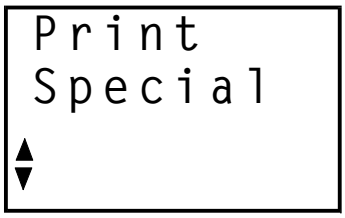
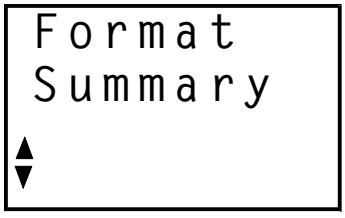
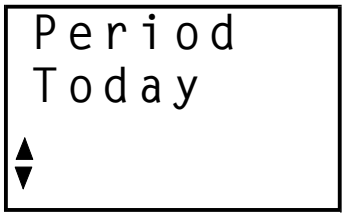
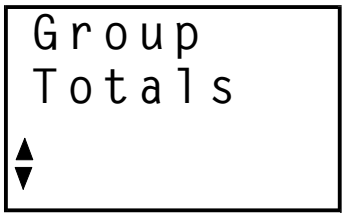
Sample Printout:

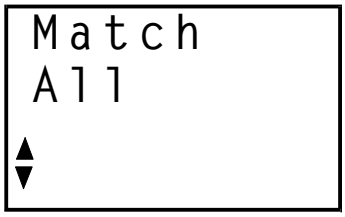
```
CUSTOMER            SMITH
SAND                10320

CUSTOMER            ADAMS
PUMICE              10180
. . . . . . . . . . . . . .
```

Print Special

This is the most powerful function in the print menu. It allows simple reports to be printed from the stored data.

Press and use ▲ ▼ to scroll to **Print Special** and press . Press at any time to return to the Ready screen.	
Select the type of report: **Summary** – Prints a summary of the selected data. **History** – Prints All the selected data.	
Select the period of data to use: **Today** – Prints the report based on data recorded since midnight. **All** – Prints the report based on all the data stored. (This may be meaningless unless you know the start time).	
Select how data is to be grouped (used for summary reports only): **Totals** – The printout is grouped and summarised by product total. **Customer** (Data1) - The printout is grouped and summarised by Data field 1. **Docket** (Data2) - The printout is grouped and summarised by Data field 2. **Truck** (Data3) - The printout is grouped and summarised by Data field 3.	

This option only appears if the printout is not grouped on Totals (e.g. Data1, Data2, and Data3): **All** – All values are used on the printout. **One** – Only one of the 'Grouped' values is reported on. For example, if the printout is grouped on Customer, a report can be generated on one Customer in the memory.	

Once the report is configured, the Loadrite will begin printing (ensure that the printer is connected BEFORE beginning to configure the report).

The generation and printing of the report may take some minutes, depending on how much data is stored.

Print Copy

This function sets the number of docket copies to be printed for each CLEAR event.

Print Data List Names

This function prints out a list of all the Data1 names (normally Customers) configured in the Loadrite. This function is normally only used to check the names when the list has been updated.

Print Product Names

This function prints out a list of all the Product names configured in the Loadrite. This function is normally only used to check the names when the list has been updated.

Print Product Volume Conversion Factors

This function prints out a list of all the product conversion factors configured in the Loadrite. This function is normally only used to check the factors when the list has been updated.

This function is available if volume conversion function is enabled during installation

Print Stand-by message

The Loadrite normally displayed the service contact details of your local Loadrite dealer when the stand-by key is pressed. These details can also be printed if required by using the 'Print Stand-by' function.

Print Usage

This function displays the current usage of the internal print buffer. Percentage free storage will be displayed.

Print Reset

The Reset function allows all data in the temporary internal print buffer to be deleted. It is recommended to run this reset function regularly after other reports have been generated.

15 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.

16 Error Messages

Bouncing Load

If the lift arms are bouncing significantly while weighing, an error occurs. This can happen if, for example, the loader is driven over uneven ground while lifting the load.

The Loadrite can detect a bouncing load and if this occurs, the indicator displays the message **`Bouncing Load`**.

Depending on the installation of the Loadrite, there are two possibilities

1. No weight is displayed and hence there is no weight to add. You should repeat the lift. Avoid uneven ground as you lift through or near the trigger point.
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.

Check Power

The Loadrite has detected that the power supply has reached the unstable level. Check that the power source is stable and between +12V and +32 V.

Check Transducer

The Loadrite has detected an error in the pressure transducer signal input. This indicates a fault in either the pressure transducer or the cable that connects the transducer.

Check Trigger

The Loadrite has detected a fault in the trigger or the cable that connects the trigger.
Check that the lens on the optical trigger is clear and dust-free.

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.

Module Data Lost

The Loadrite has an ability to store data internally in the event that the Data Logger Module LD941 is absent or full. The Loadrite will generate this message when the internal data storage is full and some data has been lost as a result.

You need to install a new data module immediately to avoid further loss of data.

Module Error

The Loadrite has detected an error when writing to the LD941 data logger module.

Check that the module is securely connected to the Loadrite.

Module Full

The Loadrite has detected that the LD941 data logger module is full.

The full module should be removed and taken to the MMS for data transfer.

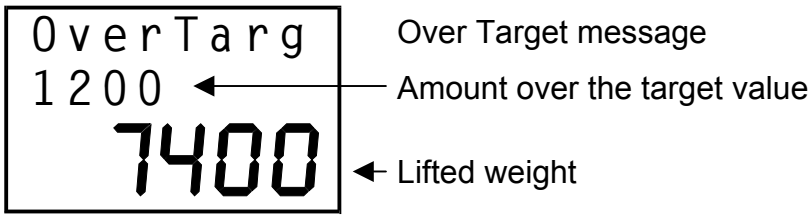
No Lock

No Lock means that the interlock was not closed when lifting the load. The interlock must be closed (or the bucket must be fully rolled back) while lifting the load.

No weight is displayed and hence there is no weight to add.

Over Target

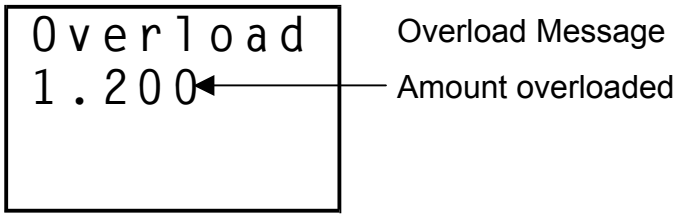
Over Target means that adding the lifted weight will exceed the target value. The lifted weight can still be added by pressing the ADD key.



Auto-Add function will not automatically add over-target weight.

Overload

Overload means that the lifted weight exceeds the full scale (capacity) setting. If the Overload Error is set during installation, overloaded weight cannot be added.



Poor Lift

If a weighing error is close to but not greater than the tolerance limit, the Loadrite displays the warning message **`Poor Lift`**.

The weight can be added as usual.

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.

Speed Changed

For accurate measurement, the speed of raising the lift arms must be smooth, without acceleration or deceleration.

The Loadrite can detect changing speed as the arms go past the trigger point. If this occurs, the indicator displays the message **Speed Changed**.

Depending on the installation of the Loadrite, there are two possibilities:

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 4% of full scale.

See page 15 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.

17 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 ±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	1 - 20mA (0-100%).
Trigger input	Trigger 1: Magnetic or Optical. Pull-up resistor requiring switch to ground. Trigger 2: Rotary. Pulse width modulated: 0 - 5V.
Serial communications.	RS232C protocol to printer and data logger

Display

LCD display	Back light

Keypad

22 keys	Back light. Numeric and special functions

Clock

Built-in clock	Hours, minutes, day, month, year. Year 2000 compliant

Physical

Loadrite indicator	Protected to IP54 Weight: 1.6kg
Pressure transducer	Protected to IP67
Position sensor	Protected to IP67

Available Options

Loadrite printer	24 column
Data logger	Provides electronic data collection
Remote ADD button	For operator convenience
Interlock system	To disable weighing under defined machine conditions

A large number of additional operating features can be enabled at installation time.

18 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 / Interlock
7. N.C.
8. Positive supply to Trigger 2
9. N.C.
10. Trigger 2: Rotary trigger / Interlock
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.

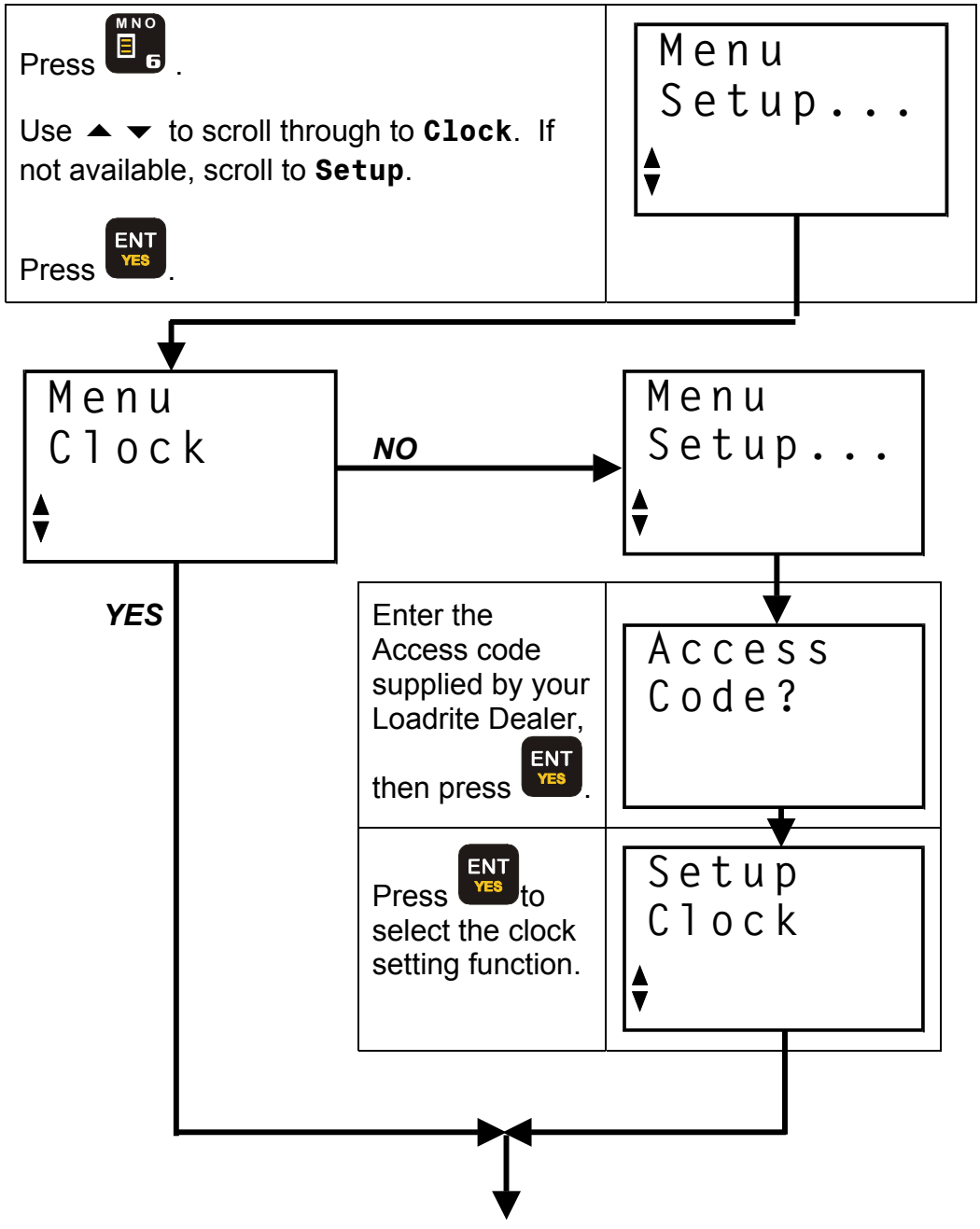
Appendix i Time and Date

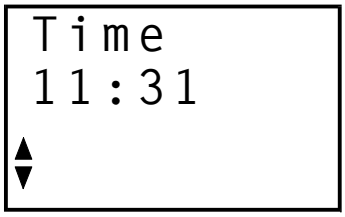
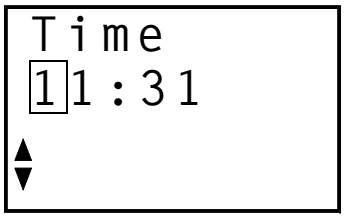
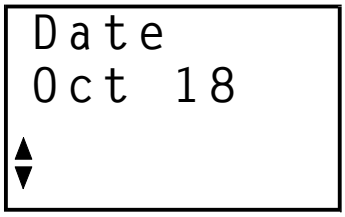
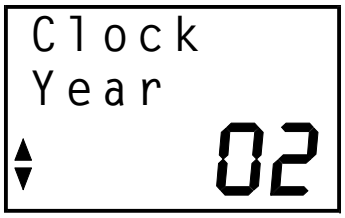
The Loadrite has an internal clock that can be used for inserting the time and date into printed data.

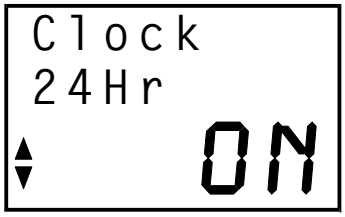
You can display the time and date by pressing the ABC 2 key.

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.



The Loadrite displays the first of the time / date screens. You can use ▲ ▼ to scroll through the time/ date screens. When on the required screen, press ENT YES to change the setting.	
Time of day screen: Press ENT YES to allow editing, a flashing cursor will appear. Use the number keys to change time. Use the ▲ ▼ to change AM/PM setting if available. Press ENT YES to confirm the new time.	
Day and month screen: Press ENT YES to allow editing. Use the number keys to enter the month and day. (Enter 00 for October, 01 for November, and 02 for December). Press ENT YES to confirm the new date.	
Year screen: Press ENT YES to allow editing. Use the number keys to enter the year. Press ENT YES to confirm the new year.	

Time of day screen: Press ENT YES to allow editing. The setting will flash. Use the ▲ ▼ to change the setting. Press ENT YES to confirm the new setting.	

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.

Press MNO 6. Use ▲ ▼ to scroll through to Setup. Press ENT YES.	Menu Setup... ▲▼
Enter the Access code supplied by your Loadrite Dealer. Then press ENT YES.	Access Code?
The Loadrite prompts you to enter the Loadrite total weight. Key in the Loadrite total and press ENT YES.	Loadrite 0
Key in the weigh bridge total and press ENT YES.	WghBrdge 0

The Loadrite briefly displays **Span Updated** and then returns to the menu. Press to return to the Ready screen.	

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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