Warning
Your Cleral onboard weighing system is a tool. Learning to work with it can only make it more efficient. Read this manual before using your Kiload.

Weigh bridge (certified)
Acquire the weights needed to calibrate using a certified weighbridge (Platform scale). Whenever possible, record the weights while sitting on the weigh bridge.

Pneumatic connections
Make sure that all air connections be made according to the installation diagrams.

Lift Axles
Lift axles should always be in the UP position while acquiring and recording the weights in the Kiload. If the vehicle is equipped with an automatic lift axle activation device, then you must acquire and record the weights while the lift axle is engaged (touching the ground) for both empty and heavy calibration. And use the system with lift axle down.

Fuel
To enhance the performance of your Kiload, fuel tanks must be full to acquire and record the weights.

Air leaks
An leak in the pneumatic system will falsify the pressure readings for calibration. This will end up with erratic and false weight readings. You most likely have a leak if the readings are not stable while your vehicle is stationary. A frequent start of the compressor is a good indication of an air leak.

Recalibration
Recalibration is necessary if you have adjusted or replaced a leveling valve or if you’ve replaced a mechanical sensor, air transducer, or fleximeters.

Slopes
A slightly sloped terrain will not affect the accuracy of your scale, but the bigger the inclination the higher the error margin. Learning to work with your Cleral system will ultimately give you better precision in these conditions.

Technical Support
For technical help, consult your local authorized Cleral dealer.

Warranty
Cleral products are warranted against defects in workmanship for a period of one year from the original date of purchase. The defective covered product will be repaired or replaced by the manufacturer. The defective product needs to be sent by your local dealer to Cleral with proof of purchase. This warranty does not cover injury or damages caused by the use of this product. It also does not cover all costs connected with the replacement part ( labor, shipping and handling or other). Cleral will not be liable for fines issued for overweight violations while using its products.

Contact your local Cleral dealer for repairs and replacement parts.

Thank you for choosing and trusting CLERAL CANADA

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Keypad description

- **On/Off main power**
- **Access to the calibration menu**
- **To perform empty Tare or Scroll back up while in menus**
- **Lower values or Scroll Down while in the menu**
- **Raise values or Scroll Up while in the menu**
- **Change channel or Scroll right in the menu or confirm**
- **Transmit data by RS 232 or print**
- **Access to menu**
- **Quick click will Freeze while in Total mode (Main screen)**
- **Click and hold will Pause while in Total mode (Main screen)**
- **Resets to 0,00 while in calibration modes**

A :  Letter A followed by a colon (:) Represents channel A
B :  Letter B followed by a colon (:) Represents channel B
C :  Letter C followed by a colon (:) Represents channel C
D :  Letter D followed by a colon (:) Represents channel D
T :  Letter T followed by a colon (:) Represents the total of all activated channels
SAFETY NOTICE

⚠️ IMPORTANT - DANGER

Before using, make sure you read and understand the SIM operation manual.

⚠️ IMPORTANT - DANGER

The system always raises the auxiliary axle in the case of a defective system to prevent axle skipping, oversteer or understeer. It is your responsibility to stop the vehicle in case of malfunction of the unit. Have the system immediately repaired. Do not drive the vehicle.

⚠️ IMPORTANT - DANGER

In the case of a problem, shut the Cleral scale off, this will result in the lifting of the auxiliary axle.

It is your responsibility to stop in case of malfunction of the device and to repair the unit immediately.

It is your responsibility to stop in case of intermittent malfunction of the device and to repair the unit immediately.

Note: The SIM mode has predetermined values of factory calibration. So with an empty vehicle, the auxiliary axle must be in a raised position.

Important: If the vehicle is FULL, and in motion, the auxiliary axle will raise and be in calibration mode if you exceed the speed limit by 10 km/h
Kiload’s Flow chart

Menus and sub-menus.

Starting the unit

When starting the K2, the software version is displayed.

Subsequently, the system configuration appears.

The sensor type is displayed for each channel.

Sensor description:
M: Mechanical sensor
F: Fleximeter
A: Air sensor
NA: Non Activated

Note the number of letters on the same channel corresponds to the number of sensors used to instrument the channel.
Application

General Information

The SIM is an intelligent management system for the auxiliary axle. It can be fitted on most vehicles with auxiliary fixed or lift axles. Its operation is simple. It determines the weight applied on each axle of the vehicle and, according to predetermined parameters, it regulates the pressure of the auxiliary axle air suspension. The auxiliary axle becomes balanced with the primary referenced axles even while driving. The lift axle is fully managed by the SIM according to the weight limits predetermined in the unit. Optionally, the lowering, raising, and even blocking of the axle can be according to speed and/or direction of the vehicle. Raising or lowering and even blockage of the axle can be managed according to speed or direction of the vehicle.

Step by step implementing

1 ➤ Enter the parameters in the scale indicating the type of suspension, the position of the auxiliary axle, axle type, fixed or adjustable, weight limits to which the auxiliary axle must be raised or lowered.

If the parameters are entered correctly, it will not be necessary to repeat these steps during subsequent calibrations.

2 ➤ Calibrate empty vehicle.

3 ➤ Calibrate loaded vehicle.

Note!

The empty calibration is performed with the auxiliary axle in the raised position. If the auxiliary axle is non lifting type, the calibration will be carried out with a pressure of 0 psi in the auxiliary suspension air bag, becomes floating.

4 ➤ Calibrate the auxiliary axle in automatic mode.
Empty Calibration - Truck 8(2)X4 - 8X(2)4

Acquiring Empty weights

Take the vehicle on the weigh bridge. Make sure that the drive axles are NOT on the weigh bridge.

If the auxiliary axle «B» is not in the raised position, press the UP arrow for three (3) seconds. You are now in the manual «MAN» mode. You will need to exit this mode after the weights are acquired.

Note the empty steer axle «A» weight: __5400__ Kg

Then move the complete vehicle on the weigh bridge. The auxiliary axle must not touch the ground.

Note the «Total» empty vehicle weight: __13400__ Kg

NOTE!
If the auxiliary axle is not liftable, the SIM purges the auxiliary axle suspension bags to 0 psi. This will result in the auxiliary axle to still touch the ground but relieved of any weight.

The difference between the weight of the "Total" vehicle and that of the steering axle "A" determines the weight of the "C" axle.

Total empty weight: __13 400__ Kg
+ Weight of empty A: __5 400__ Kg
= Weight of empty axle C: __8 000__ Kg

Once the empty weights recorded, press Data to exit the Man mode and return to the automatic mode.
Press CAL to enter the calibration menu.

The curser is on empty. Press the Right arrow to enter the calibration menu

**Note!**
In calibration, the SIM module automatically raises the auxiliary axle in order to perform the fixed axles calibration.

In the case of non liftable auxiliary axles, the air bags will be deflated to 0 psi thus making it floating.

Adjust the weight of channel steering «A». (ex: 5400 kg)

Press CYCLE to change channel «C»

Adjust the weight of channel «C». (ex: 8000 kg).

**Tip!**
Once «A» weight is recorded, you can enter the «Total» weight. K2 will automatically record the «C» weight.

Press DATA to exit.
Full Calibration - Truck 8(2)X4 - 8X(2)4

Acquiring Full weights

Take the vehicle on the weigh bridge. Make sure that the drive axles are NOT on the weigh bridge.

If the auxiliary axle «B» is not in the raised position, press the UP arrow for three (3) seconds. You are now in the manual «MAN» mode. You will need to exit this mode after the weights are acquired.

Note the Full steer axle «A» weight: 11 000 Kg

Then move the complete vehicle on the weigh bridge. The auxiliary axle must not touch the ground.

Note the «Total» Full vehicle weight: 31 000 Kg

NOTE!
If the auxiliary axle is not liftable, the SIM will purge the auxiliary axle suspension bags to 0 psi. This will relieve the auxiliary axle to still the ground but relieved of any weight.

The difference between the weight of the "Total" vehicle and that of the steering axle "A" determines the weight of the "C" axle.

Total Full weight : 31 000 Kg
+ Weight of Full A : 11 000 Kg
= Weight of Full axle C : 20 000 Kg

Once the Full weights acquired, press Data to exit the Man mode and return to the automatic mode.
Recording the Full weights

Press CAL to enter the calibration menu.

Move the cursor on Full. Press the Right arrow to enter the calibration menu.

**Note!**
In calibration Mode, the SIM module automatically raises the auxiliary axle to allow the calibration of the fixed axles.

If the auxiliary axle is not liftable, the SIM purge the auxiliary axle suspension bags to 0 psi. This will result in the auxiliary axle to still touch the ground but relieved of any weight.

Record the Full steer axle «A» weight. (ex: 11000 kg)

Press CYCLE to go to channel «C»

Record Full «C» weight. (ex: 20000 kg).

**Tip!**
Once «A» weight is recorded, you can enter the «Total» weight. The will ultimately record the «C» weight.

Press CYCLE to enter SIM calibration for the auxiliary axle.

DATA to exit calibration menu.

Continue the calibration of the auxiliary axle  Next ➦
Auxiliary Axle «B» Full Calibration

The calibration of the auxiliary axle is done in Full.

Go to full calibration of the auxiliary axle by using the Cycle. The information indicates the channel of the auxiliary axle, axle type (Fixed or Lift) and the actual weight of the auxiliary axle only.

Weight of the axle and wheels

Press the CAL, to start the automatic calibration of the SIM.

At any time, press right arrow to go to the next menu. In 4 seconds if no changes are made, by touching the arrows, the menu goes to the next step. Back to menu Press Left Arrow. To fix this menu press simultaneously on the Up and Down arrows. To exit at any time, press DATA.

Automatic calibration is started.

The first step is the calibration of the system with minimum pressure. Psi 30, indicates that the first calibration point will be at 30 psi. The weight indicated is the latest previous calibration. To adjust the PSI, use the Up or Down arrows.

When the system is in calibration for Pmin, the Psi and weight will increase.

The system stops at the weight supported for the determined pressure of 30 PSI. If no change occurs, the menu goes next.

To change the minimum weight, use the UP and DOWN arrows. The change does not reset the calibration, but any weight changes done manually will be recorded.
The automatic calibration system continues to maximum pressure. The cursor stops at PSI Max. No changes possible.

![Image of PSI Max](image)

When the system is in calibration for Pmax, Psi and weight will increase.

![Image of PSI Increase](image)

The cursor points to the calculated weight related to the maximum equalized pressure in accordance to the load. It is possible to edit (with Arrow Up or Down). The system does not restart the auto calibration.

![Image of Weight Calculation](image)

When the calibration is complete, the system indicates Ok, calibrating of the auxiliary axle is successful and returns to the main screen.

![Image of Ok Calibration](image)

If the message "Unstable" appears, it means that the calibration was successful, but the stored values are not entirely reliable.

![Image of Unstable Calibration](image)

If "Error" appears, it means that the calibration was not successful and no value has been stored. Check that there are no error codes.

![Image of Error Calibration](image)

If the system returns an error code, refer to the section System Error.
Empty Calibration - Truck 6X2(2) - 8X4(2)

Acquiring Empty weights

Take the vehicle on the weigh bridge. Make sure that the drive axles are NOT on the weigh bridge.

If the auxiliary axle «B» is not in the raised position, press the UP arrow for three (3) seconds. You are now in the manual «MAN» mode. You will need to exit this mode after the weights are acquired.

Note the empty steer axle «A» weight: __5400__Kg

Then move the complete vehicle on the weigh bridge. The auxiliary axle must not touch the ground.

Note the «Total» empty vehicle weight: __13400__Kg

_Note!

If the auxiliary axle is not liftable, the SIM purges the auxiliary axle suspension bags to 0 psi. This will result in the auxiliary axle to still touch the ground but relieved of any weight.

The difference between the weight of the "Total" vehicle and that of the steering axle "A" determines the weight of the "C" axle.

Total empty weight: __13 400__Kg
+ Weight of empty A: __5 400__Kg
= Weight of empty axle C: __8 000__Kg

Once the empty weights recorded, press Data to exit the Man mode and return to the automatic mode.
Recording the Empty weights

Press CAL to enter the calibration menu.

The cursor is on empty. Press the Right arrow to enter the calibration menu

**Note!**
In calibration, the SIM module automatically raises the auxiliary axle in order to perform the fixed axles calibration.

In the case of non liftable auxiliary axles, the air bags will be deflated to 0 psi thus making it floating.

Adjust the weight of channel (steering Axle) «A». (ex: 5400 kg)

Press CYCLE on to change to channel «B»

Adjust the weight of channel «B». (ex: 8000 kg).

**Tip!**
Once «A» weight is recorded, you can enter the «Total» weight. The K2 will automatically record the «b» weight.

Press DATA to exit.
Full Calibration - Truck 6X2(2) - 8X4(2)

Acquiring Full weights

Take the vehicle on the weigh bridge. Make sure that the drive axles are NOT on the weigh bridge.

If the auxiliary axle «B» is not in the raised position, press the UP arrow for three (3) seconds. You are now in the manual «MAN» mode. You will need to exit this mode after the weights are acquired.

Note the Full steer axle «A» weight: __11 000__ Kg

Then move the complete vehicle on the weigh bridge. The auxiliary axle must not touch the ground.

Note the «Total» Full vehicle weight: __31 000__ Kg

Non liftable auxiliary axle

NOTE!
If the auxiliary axle is not liftable, the SIM will purge the auxiliary axle suspension bags to 0 psi. This will result in the auxiliary axle to still touch the ground but relieved of any weight.

The difference between the weight of the "Total" vehicle and that of the steering axle "A" determines the weight of the "B" axle.

Total Full weight : __31 000__ Kg

+ Weight of Full A : __11 000__ Kg

= Weight of Full axle B : __20 000__ Kg

Once the Full weights recorded, press Data to exit the Man mode and return to the automatic mode.
Press CAL to enter the calibration menu.

Move the cursor on Full. Press the Right arrow to enter the calibration menu

**Note!**
In calibration Mode, the SIM module automatically raises the auxiliary axle to allow the calibration of the fixed axles.

If the auxiliary axle is not liftable, the SIM purges the auxiliary axle suspension bags to 0 psi. This will result in the auxiliary axle to still touch the ground but relieved of any weight.

Record the Full steer axle «A» weight. (ex: 11000 kg)

Press CYCLE to go to channel «B»

Record Full «B» weight. (ex: 20000 kg).

**Tip!**
Once «A» weight is recorded, you can enter the «Total» weight. The K2 will automatically record the «B» weight.

Press CYCLE to enter SIM calibration for the auxiliary axle.

DATA to exit calibration menu.

Continue the calibration of the auxiliary axle          Next  ⇒
Auxiliary Axle «B» Full Calibration

The calibration of the auxiliary axle is done in Full.

Go to full calibration of the auxiliary axle by using the Cycle. The information indicates the channel of the auxiliary axle, axle type (Fixed or Lift) and the actual weight of the auxiliary axle only.

Weight of the axle and wheels

Press the CAL, to start the automatic calibration of the SIM.

At any time, press right arrow to go to the next menu. In 4 seconds if no changes are made, by touching the arrows, the menu goes to the next step. Back to menu Press Left Arrow. To fix this menu press simultaneously on the Up and Down arrows. To exit at any time, press DATA.

Automatic calibration is started.

The first step is the calibration of the system with minimum pressure. Psi 30, indicates that the first calibration point will be at 30 psi. The weight indicated is the latest previous calibration. To adjust the PSI, use the Up or Down arrows.

When the system is in calibration for Pmin, the Psi and weight will increase.

The system stops at the weight supported for the determined pressure of 30 PSI. If no change occurs, the menu goes next.

To change the minimum weight, use the UP and DOWN arrows. The change does not reset the calibration, but any weight changes done manually will be recorded.
The automatic calibration system continues to maximum pressure. The cursor stops at PSI Max. No changes possible.

When the system is in calibration for Pmax, Psi and weight are increasing.

The cursor points to the calculated weight related to the maximum equalized pressure in accordance to the load. It is possible to edit (with Arrow Up or Down). The system does not restart the auto calibration.

When the calibration is completed, the system indicates Ok, calibration of the auxiliary axle is successful and returns to the main screen.

If the message "Unstable" appears, it means that the calibration was successful, but the stored values are not entirely reliable.

If "Error" appears, it means that the calibration was not successful and no value has been stored. Check that there are no error codes.

If the system returns an error code, refer to the section System Error.
Multi-calibration

Activation of one or more channels in MultiCal

When the suspension has a nonlinear effect, the Multi-calibration is used. The algorithm of this function increases the accuracy.

1. To enable this feature, press CAL to enter the calibration menu.

2. With the arrow move the cursor to Multi Cal.

3. Press Right Arrow. The first letter will flash. With Down Arrow, switch from 0 (not activated) to channel A (Cal Multi-activated on this channel).

4. Go to the next channel, press the right Arrow. The next channel flashes.

5. Press Down Arrow to switch from 0 to channel B. Only enabled channels appear.

6. To exit press the DATA
Determining calibration points

This function requires three FULL calibration points instead of one. Here is how to determine the optimal multicalibration curve.

First, determine the average weight you are carrying on the channel to be calibrated (F2 = 14000kg). Next, determine the weight above the average weight that will never be exceeded (F3 = 17000 kg). Then determine the minimum load you would carry (Fa1 = 11000kg). It is necessary to calibrate these three points depending on weight targets.

Note!
You must respect the legal load limits at all time.

In the case of our example, the curve of Cs suspension illustrates the deformation of the suspension by weight. Dp1 segment represents the calibration curve to a single point. As noted, there are differences in weight between this line and the curve Cs Dp1. The curve is the curve of Cp3 multi-calibration. Note that the differences are considerably reduced.

After determining the 3-point loading target, move the loading and calibration of point 1, 2 and 3. It is important to observe the loading progress from lightest to heaviest.

IMPORTANT
Before doing the MultiCal calibration, it is mandatory to have previously calibrated the empty weights.

Steps to follow
1 - Load the truck according to point 1
2 - Go on a platform scale to determine the weights.
4 - Go to the full calibration menu.
5 - Adjust the weight according to point 1
Repeat these steps for point 2 and 3.

Example based on channel A

Point 1 Load: 11000 kg

On the weigh bridge, press Cal, then Down arrow to select Full. And Right arrow to enter.
When the cursor is on the channel, use the arrows to record the weight of point 1.

At each calibration point, the display tells you in the right corner, which calibration point you are on.

Get a load for the second calibration point.

**Point 2 Load: 14000 kg**

On the weigh bridge, press Cal, then Down arrow to select Full. And Right arrow to enter.

When the cursor is on the channel, with the arrows, record the weight of point 2.

Get a load for the third calibration point.

**Point 3 Load: 17000 kg**

On the weigh bridge, press Cal, then Down arrow to select Full. And Right arrow to enter.

When the cursor is on the channel, with the arrows, record the weight of point 3.

**Important!**
If your calibration is incorrect, you must repeat the full calibration of the three points (1, 2 and 3) in ascending order.

**Important!**
If you disabled the multi-Cal, the factor that will be accounted for will be point 2, because it is determined by the maximum legal weight.
Swap Software

This function allows the swapping of multiple semi-trailers to the tractor without requiring recalibration. There is an availability of 12 memories. A single channel can be stored at a time.

Using the SWAP software

Once you have activated this function, information appears in the right corner of the display MB1. M is for memory, B is the channel for which the data is stored and 1 is one of 12 memories.

If you want to hook up another trailer (ie # 8). Press the arrows to select the memory allocated to the trailer MB8. Once you change the memory, the device shows new weight data according to the calibration data stored for this trailer.

Calibrating SWAP Software

To calibrate, simply select the memory assigned to the trailer and proceed as usual. The data stored can be exported to other monitors.

With the arrow, select the memory. Subsequently to calibrate the trailer as explained on page 8 and 9. This must be repeated for each trailer.
Acquiring or modifying calibration Data in SWAP

When the trailers are calibrated with a monitor, it is possible to collect data (Empty Weight, and Factor Zero) on this monitor and record them in another.

1. Press CAL to enter calibration.

2. The cursor pointing empty, 1-Press Down arrow repeatedly to move the cursor to swap. 2-Press the Right Arrow to enter the menu.

3. Press Down or Up arrow to select desired memory to read or modify.

4. Press Right arrow Empty Data will blink. You can note the data.

5. Press right arrow to move on to the next data. Zero blinks. You can record it.

If you go to the end of the selected memory, the following message will appear. If you have a printer, press Right Arrow. All the data of all 12 memories will be printed.

Press the Up or Down arrow to change or save the new data.

Press right arrow to move on to the next data. Factor flashes. You can record it.
TARE

Tare resets the original weight of the empty truck. To do this, you must be sure that the vehicle is EMPTY and is on as flat a surface as possible or on a weigh bridge. It is recommended that the tare be done when the fuel tank is full.

Tare in Gross mode

Tare (Zero) the unit while in Gross mode will bring the values back to the original empty weight.

NOTE: When the truck is empty axle auxiliary is raised.

Canceling Tare

If you want to cancel the Zero operation.

Important!
If you have calibrated your vehicle when the fuel tank was full and you perform a zero when it is empty you need to consider that your tank contains 300 litres.
Performing a Tare while in net mode will bring your values to 0,00. No matter how much the vehicle weighs at that moment.

Press Tare  

Press on down arrow to switch from No to Yes.  

Press on Tare to confirm.

Original value

<table>
<thead>
<tr>
<th>T net</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Canceling Tare (Zero)

If you want to cancel the Zero operation.

Press on Tare to confirm and cancel the operation.  

There has been no change of weight values.

Important!
If you have calibrated your vehicle when the fuel tank was full and you perform a zero when it is empty, you need to consider your tank contains 300 litres, you’ll find a difference of 240 kg less compared to a weigh bridge (mass diesel 800 kg / m3).
Freeze

The FREEZE function freezes the sensors readings when it is activated. This allows the operator to calibrate on uneven ground. This function is useful especially when the operator needs to move quickly off the weigh bridge. Here is how to use this function.

STEP : 1
Move the complete vehicle on the weigh bridge. Note the weight.

STEP : 2
Press simultaneously on both arrows once. Freeze will appear.

STEP : 3
You can now leave the weigh bridge to calibrate your scale anywhere. No matter if you are on flat ground or not.

STEP : 4
Once calibrated, press simultaneously once on both arrows to exit the Freeze mode. This will take you back to the main scree.

Note :
It is important to exit the Freeze mode after calibrating, Empty or Full.
Options menu

Enter the Options menu to change any Kiloaod option.

To enter the Options menu Press simultaneously Left & Right Arrow.

Once in Options, here is what you will see by scrolling down:

Navigating in the Options menu:

To reach a sub-menu, press on up or down arrow.

Back to menu, press Left Arrow.

To exit at any time press the DATA button.
Gross or Net weight

Gross weight displays the weight of the vehicle AND its payload. The net weight will only display the payload.

Note!
Here is the difference between Gross and Net with an empty

<table>
<thead>
<tr>
<th>Gross</th>
<th>net</th>
</tr>
</thead>
<tbody>
<tr>
<td>T: 16000</td>
<td>net T: 0</td>
</tr>
<tr>
<td>A: 13000</td>
<td>A: 0</td>
</tr>
<tr>
<td>B:3000</td>
<td>B: 0</td>
</tr>
</tbody>
</table>

Language

KiloLD can display in either English or French.

Units

You can display the weight in kilograms or pounds. If you swap from one to the other, the conversion will be automatic.
Increments

You can display weight in increments of 10’s or 100’s.

Press on right arrow to switch from 10 to 100.

Data to exit.

Tons

You can also choose to display Tons.

Press Right arrow to switch from Imperial tons to Metric tons.

Data to exit.

Ton decimal point

You can choose the number of decimals to be displayed.

Press Right arrow to switch from 0, 1, or 2.

Data to exit.

Cycle time

You can choose how long you want each channel to be displayed when in Cycle mode. In seconds.

Press on right arrow to select from 1 to 15 seconds.

Data to exit.
Automatic Tare (Zero)

This allows the automatic zero (tare) to be done when recording empty weights. It is important to know that the Zero will automatically performed as soon as the weight is change. Even if as little as 10 lbs.

Press right arrow to switch to Off.

Data to exit.

Press arrow to select the sleep time between 1 and 60 minutes.

Data to exit.

Digits

If the total weight exceeds 100,000, it is necessary to change the display from 5 to 6 digits.

Press right arrow to switch from 5 to 6.

Data to exit.

Screen Saver

Screen shuts off after a given time. Time will start after the touch of any button.

Press right arrow to switch to Off.

If you choose yes, you must select how many minutes before shut off.

Press arrow to select the sleep time between 1 and 60 minutes.

Data to exit.

Pressing any button at any time, while in sleep mode, will turn on the screen.
RS232

This function enables RS232 communication using different protocols.

Here is the RS232 sub-menu. You must choose your protocol depending on the application. If your choice is to print, you must select the printer type and number of copies printed.

Press the right arrow to activate and select the communication protocol.

If you want to select Print, press the down arrow when in the menu.

Press down arrow to select Able or Citizen.

Press right arrow to confirm Able or Citizen.

Press down arrow to select number of copies.

Press right arrow to confirm the number of copies 1 to 5. Data to exit.
The Print+Log function allows you to print the weight difference between two loading points. This delivery management option can be used for loading or unloading.

Before unloading, immobilize the vehicle on a flat surface.

Press Data to register the actual weight before unloading.

The START weight will appear. Press Data if OK.

Immoblize the vehicle on a flat surface after a weight change.

If the weight recorded is not OK, you can removed from memory or print the current weight supported.

End weight registration appears. Press Data if all is OK.

If the weight recorded is not OK, you can removed from memory or print the current weight supported.
Light option

To configure the light option, you must go to the menu option by pressing simultaneously on the Left and Right arrows.

The cursor shows the Option menu. To enter this menu, press the right Arrow.

With Down Arrow, scroll to the menu Option Light.

Press right arrow. Limit will flash.

Use arrows to adjust limits.

1-Press right arrow, limit stops flashing. 
2-Press down arrow to reach next limit. Repeat the same steps for each limit.

The following are the limits to be adjusted per desired mode.

<table>
<thead>
<tr>
<th>Minimum limit starts flashing light</th>
<th>Limit channel A</th>
<th>Limit channel B</th>
<th>Limit Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light A ↑ ↑ 13500</td>
<td>Light B ↑ ↑ 13500</td>
<td>Light ↑ ↑ 27000</td>
<td></td>
</tr>
<tr>
<td>Light A ↑ ↑ 14000</td>
<td>Light B ↑ ↑ 14000</td>
<td>Light ↑ ↑ 28000</td>
<td></td>
</tr>
<tr>
<td>Light A ↑ ↑ 14500</td>
<td>Light B ↑ ↑ 14500</td>
<td>Light ↑ ↑ 29000</td>
<td></td>
</tr>
</tbody>
</table>

The cursor shows the Option menu. To enter this menu, press the right Arrow.
Available light mode configurations.

4 Different light mode configurations are available:

No :   Non activated light mode.
2 Ch 2L :  Individual lights per Channel A and B with their respective limits.
2 Ch 1L :  One light for Channel A and B with their respective limits. The light will start flashing when either one of the limit is reached.
Total :  The light starts flashing when the TOTAL weight is reached. Also used for systems with more than 2 channels.

Configuring weight limits

You need to enter three weight limits. The first one is the weight at which you would want to start the light to start flashing. The second is, the weight at which you want the light to stay lit. The third is the weight which you want the light to turn off. The closer you get to the second weight, the faster the light will flash. When the light stays lit, this is when you want to stop loading because if the light turns off on its own, you are OVER the weight limit. The following legend shows the progression.

<table>
<thead>
<tr>
<th>Weight Limit</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>L A 10000</td>
<td>Starts Flashing</td>
</tr>
<tr>
<td>L A 14000</td>
<td>Stays Lit</td>
</tr>
<tr>
<td>L A 14500</td>
<td>Shuts Off</td>
</tr>
</tbody>
</table>

NOTICE!
The letter L indicates Light the following letter indicates the channel; A for Channel A, B for Channel B and T for Total.
Light (Alarm) module connections

The external module is connected to the Kiloaod with a 4 conductor cable. As for the 2 conductor cable, the blue and yellow wires are used to connect to the lights.

Red wire : Positive (+)
DO NOT FORGET THE FUSELINE
Black wire : Negative (-)
White wire : Control 1 A
Green wire : Control 2 B

Connection for 2Ch 2L

Blue and Yellow to lights. See the recommendations below.

Connection for Total and 2Ch 1L

Connect only one light to the blue wire. The yellow wire is not used.
**Target**

This menu activates the Target. This option activates a switch according to a target weight.

**Target weight**

This function adjusts the target weight which should activate the switch.

**Target module connection**

The target module is used to enable or disable a device according to a target weight.

- Red wire: Positive (+) & «fuse line»
- Black wire: Negative (-)
- White wire: Connected to target module
- Green wire: Not connected to target module
- Blue wire: Connected to light
- Yellow wire: Not connected

Black wire to neutral or positive power source.

Press right arrow to toggle from Off to On

Data to exit.

Use the arrows to adjust the weight.

Data to exit.
Alarm

This activates the Alarm menu. This option enables a switch according to a target weight.

Press Right arrow to select Yes. The following will appear.

Adjust Signal 1 & 2 of the Alarm mode.

1- Press Right arrow to select Signal 1, the information is highlighted.
2- Adjust Signal 1 with Up or Down arrow.
3- Press Left arrow to back-up or Data to exit.

1- Press Right arrow to select Signal 2, the information is highlighted.
2- Adjust Signal 2 with Up or Down arrow.
3- Press Left arrow to back-up or Data to exit.

This option is not used in parallel with the target mode or light mode because it uses the same control wires (white and green).

Alarm module connections

Red : Positive (+) & «fuse line»
Black : Negative (-)
White : Alarm module connection
Green : Alarm module connection

12-24 Volt

Signal # 1 (grey)
Signal # 2 (blue)

Note: If the wire is connected to the Orange positive signal outputs 1 and 2 are positive and if the orange wire is connected to the neutral output will be neutral

Over 35000, signal #2 is activated.
Between 34000 and 35000, Signal #1 is activated.
Under 34000, No signal.
Target

*To be functional, this option must be ordered when purchasing the device.* This menu activates the Target. This option activates a switch according to a target weight.

**Target weight**
This function adjusts the target weight which should activate the switch.

**Target module connection**

*To be functional, this option must be ordered when purchasing the device.* The target module is used to enable or disable a device according to a target weight.

- **Red Wire**: Positive (+) & «fuse line»
- **Black Wire**: Negative (-)
- **White wire**: Connected to target module
- **Green wire**: Not connected to target module
- **Blue wire**: Connected to light
- **Yellow wire**: Not connected

Press right arrow to toggle from Off to On
Data to exit.

Use the arrows to adjust the weight.
Data to exit.
Pause

PAUSE function (Pause) freezes the weights of the channels between the point of activation and deactivation. For example, if you enable Pause and the displayed weight is 30,000, when you break off the next day and there was thermal drift and the weight could have changed the weight displayed will always be maintained at 30,000 with the Pause activated.

**ACTIVATION**

**STEP : 1**
Park on flat ground

**STEP : 2**
Press and hold simultaneously on both arrows for 5 seconds. Pause will be displayed.

**DEACTIVATION**

**STEP : 1**
When the Kiload is Paused. You can move freely without changing the weight data.

**STEP : 2**
To deactivate Pause, park on flat ground and press and hold simultaneously on both arrows for 5 seconds. No matter how much the sensor values have changed, the weight readings have remained the same as when you had performed the Pause.

**NOTE!**
Make sure to follow all the steps. No doing so can change the calibration data.
**Configuration Menu**

The Configuration menu lets you adjust the instruments configurations.

To enter the configuration menu, simultaneously press Left and Right Arrow.

Use the down arrow to move the cursor to Configuration and press Right Arrow to enter the menu.

Once in Configurations, here is what you will see by scrolling down:

- Configuration
- SIM Active
- Tag axle
- Software Swap Channel
- Virtual steer
- Tare Channel
- Configuration
- Set Limits
- Hide MinAir
- Hide N/A
- Set Date/Time
- Kiload Name
- Safety Menu

Navigating in the Options menu:

To reach one of these sub-menus, simply press repeatedly on the Up or Down arrows.

Use the Left arrow to move backwards in the menu.

Press Data at any time to exit.
SIM Configuration Menu

SIM has three levels:

The first is to determine the position of the SIM
The second level is to configure the operating parameters of the SIM.
The third step is to save the SPIF certification data.

The SIM must be in automatic mode. Thereafter, you must adjust the settings of the SIM. It is from these parameters that the SIM regulates the auxiliary axle. The data is used for final adjustments and to define the SPIF certification settings of your device.

**WARNING:** Only authorized persons can change system settings. Any modification may result in serious injury or death. CLERAL is not responsible for these changes.

In case of malfunction of the SIM, the vehicle must be stopped and repaired. **DO NOT** run when the SIM is in malfunction.
Configuration of SIM the mode

This procedure enables the SIM mode and determines the operating parameter of the SIM module.

The first step is to go into the setup menu. Simultaneously pressing the left and right arrows.

Press Down arrow to move the cursor to configuration and press CYCLE to enter the menu.

With the down arrow, press until you see the SIM menu ACTIVE. Select the mode "NO" "YES" or "Manual".

Press Down arrow to go to next menu.

Manual SIM

In manual mode, you can manually increase or decrease the pressure. To do this, the display must be on the main screen "MAN» is displayed in the top left corner. This function used in mechanical maintenance.

Once you press one of the arrows to adjust the pressure, the auxiliary axle pressure and dynamic weight appears.
Choose the type of Truck with the auxiliary axle and reference.
1 - Press Right Arrow to select, the information becomes highlighted.
2 - Select with Up or Down arrow.
3 - Press left arrow to deselect.
Press Down Arrow to go to the next menu.

The auxiliary axle, lift or fixed, is the axle that is controlled by the SIM. The reference primary axle, is the axle from which the SIM will use to balance equalize the load.

**Truck 6X2(2)**
- Distribution: Aux/Ref 50/50
- Truck 6X2(2) Lift Aux C Ref: B Single
- Truck 6X2(2) Fixed Aux C Ref: B Single

**Truck 8X4(2)**
- Distribution: Aux/Ref 66/33
- Truck 8X4(2) Lift Aux: C Ref: B Tandem
- Truck 8X4(2) Fixed Aux: C Ref: B Tandem

**Truck 8(2)X4**
- Distribution: Aux/Ref 50/50
- Truck 8(2)X4 Lift Aux: B Ref: A Single
- Truck 8(2)X4 Fixed Aux: B Ref: A Single

**Truck 8X(2)4**
- Distribution: Aux/Ref 33/66
- Truck 8X(2)4 Lift Aux: B Ref: C Tandem
- Truck 8X(2)4 Fixed Aux: B Ref: C Tandem
Auxiliary axle weight

Indicate the weight of the auxiliary axle, axle weight alone with its wheels. (Supplied by the manufacturer).

1 - Press Right Arrow to select the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

Min Auxiliary Weight

Indicate the minimum weight to be applied to the auxiliary axle during its deployment. (If not applicable: N / A)

1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

Max Auxiliary Weight

Indicate the maximum weight that should be applied to the auxiliary axle during its deployment. (If not applicable: N / A)

1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

Max Reference Weight

Indicate the maximum weight to be applied to the Reference axle(s). This is the auxiliary axle weight when it is deployed.

1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.
Safety buffer

Indicate safety buffer that is took into account in the calculations of activation of the axle Auxiliary.
1 - Press Right Arrow to select the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

Distribution Aux/Ref

Indicate the desired ratio of distribution between the auxiliary and reference axle. (50/50) (33/67)
1 - Press Right Arrow to select the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

SIM Reaction margin

Indicate the margin of reaction of the SIM. This sets the weight spread that the SIM uses distribute the load. The higher the margin, the lesser the responsivity.
1 - Press Right Arrow to select the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

% Min Steer

Indicate the proportion of the minimum weight to be applied on the steering axle in relation to the Total weight. must be relative to the total weight. (If not applicable: N / A)
1 - Press Right Arrow to select the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.
Distribution Channel

This menu shows the distribution of the total weight of each channel after calibrating.

Press Down Arrow to go to the next menu.

Up Delay Aux

Indicate the time delay before lifting the Auxiliary axle (or set to zero to purge the suspension air bags) before the SIM starts the calibration. If the axle is raised, this delay is ignored. (If not applicable: N/A).

1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

Reaction Delay SIM

Indicate the reaction time delay before the SIM compensates the loads once the ratio is reached. when the gap ratio is reached.

1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

Maintain Aux Up Reverse ➔ Forward

Indicate the time that the SIM will maintain the auxiliary axle lifted after the vehicle is put in forward.

1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.
PSI Aux Mode Man

Indicate the pressure applied to the auxiliary axle when used in manual mode.

1 - Press Right Arrow to select the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

Speed Limit Up Aux

Indicate the speed limit where it becomes impossible to lift the Auxiliary axle.

1 - Press Right Arrow to select the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

Abs (sensor)

The ABS sensor information is displayed. The direction is indicated in parentheses. (N) Neutral (D) Forward (R) Reverse. The speed is indicated, followed by its unit (km or ml). The units are selectable in the "Weight Units" found in the Option menu. If you choose km, the units of measurement will be in CM and if you choose Lb, the measurement will be in inches.

The formula for the speed is:

\[
((\text{Frequency}/100 \text{ teeth}) \times (80\text{cm Wheel Diameter} \times \pi))
\]

Only the wheel diameter and the number of teeth of the ABS ring can be changed.

1 - Press on Right Arrow to change a setting, the information becomes highlighted.
2 - Adjust information with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu. Follow the same procedures as above to edit and exit.
This menu allows you to save the credentials for the SPIF standards. The following information will be printed on the SPIF weigh ticket. This information validates the device certification.

Press Right Arrow to enter on the menu.

Serial Kiload

Enter the Kiload’s serial number
1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

Truck Owner

Enter truck owner or operator
Maximum 168 digits.
1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

Truck Vin

Enter vehicle identification number «VIN».
Maximum 32 digits.
1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.
SPIF Certifier

Enter SPIF certifier information. Maximum 32 digits.
1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

SPIF Description

Enter SPIF description. Maximum 32 digits.
1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.
3 - Press left arrow to deselect.

Press Down Arrow to go to the next menu.

SPIF Weight

Enter full weight per channel, taken from a certified weigh bridge, used for the certification of the vehicle.
1 - Press Right Arrow to select, the information becomes highlighted.
2 - Adjust the weight with Up or Down arrow.

Press left arrow to deselect or exit the menu.
Press down arrow to go to the next menu.
In this menu, press to print Data to print the SIM's SPIF information.

To correct errors, you simply navigate backwards through the menus.

---

**CLERAL SIM SPIF**

Data Register

Date M/D/Y : 01/01/12
Time : 03:15:09
SPIF Description: N# 23
SPIF Agent Certifier:
Truck Repair INC
OTTAWA' ONTARIO
TEL-888-111-3333
Truck VIN: 2JKITS1256LDF
Truck Owner:
TRANSCANA
OTTAWA' ONTARIO
TEL-888-111-3333
Serial # kiload: KLD09658
Type Truck: 8X(2)4
Aux Axle: Lift
Aux axle weight: 800 Kg
Min Aux Weight: 3000 kg
Max Aux Weight: 6000 Kg
Max Reference Weight: 9000 kg
Aux Up Speed Limit: 50 KM
Diameter: 80 cm
Teeth: 100
Aux Man Mode PSI : 65 psi
% Min Steer 19%
Spread Ratio Aux/Ref : 2%
Distribution Aux/Ref
Safety buffer: 500 kg

Number of channels 3
Units: kg /Gross

<table>
<thead>
<tr>
<th>Channel</th>
<th>Kiload</th>
<th>Certified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%/Weight</td>
<td>%/Weight</td>
</tr>
<tr>
<td>A</td>
<td>25% 8500</td>
<td>26%-8400</td>
</tr>
<tr>
<td>B</td>
<td>19%-6080</td>
<td>19%-5990</td>
</tr>
<tr>
<td>C</td>
<td>55%-1750</td>
<td>55%-17560</td>
</tr>
<tr>
<td>D</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Total</td>
<td>32080</td>
<td>31950</td>
</tr>
</tbody>
</table>

---
Tag Axle

The Tag Axle configuration enables the display of the weight of the rear axle when it is down. The weight of the axle is equal to the weight loss of channel A and B.

Using Tag Axle

Before lowering the tag axle, press the Down arrow to activate the tag option.

During this operation the Total weight does not change. The weight being lost by channels A and B together are displayed in the tag axle.

When raising the tag axle, press the Up arrow to deactivate the Tag option.

Swap Software

This function allows the swapping of multiple semi-trailers to the tractor without requiring recalibration. There is an availability of 12 memories. A single channel can be stored at a time.

To activate a channel
Press right arrow repeatedly to activate the function and select the channel to memorize.

Data to exit.
Configuration Steer

The steer configuration enables the display of the virtual weight of the steering axle of a tractor-trailer. The virtual axle weight is calculated in proportion to the weight applied to the channel A. The total weight of the tractor is divided between the drive axle group and steering axle (virtual S).

Note!
If you use this feature, you must recalibrate your steering and drive axles separately. Refer to the section: Acquiring instrumented or virtual steering weights.

Note!
If you use this function and you switch to off, the S channel data will be reported on Channel A.

Note!
If you use a sliding fifth wheel, remember that if you change its position, your data will be incorrect. To correct the situation, you need to recalibrate your Kload by returning the fifth wheel to its original position.
Channel Tare

This feature allows you to select channels on which the Tare will be made. Originally, all channels are enabled for Tare.

Configuration

This menu shows the configuration of the factory set Kiload. In this example, Channel A would be instrumented with two mechanical sensors, channel B would be instrumented with an air sensor and channel C is Not Activated. In the box where a channel with instrumented Flexmeters would be, you would see a capital F for regular flexmeters and the letter L for small flexmeters.

Adjusting Limits

This configuration sets the minimum and maximum limit at which the error message will be displayed for each sensor type. The original limits are already established. To change only in special cases.

To de-activate a channel
1 - Press Right arrow to select the channel. That channel will flash.
2 - Press DOWN arrow to set it to 0 (Off).

Data to exit.

Select the sensor
1 - Press Right arrow to enter the menu.
2 - Press DOWN arrow. All of following will scroll whenever you repeatedly press the down arrow.

To modify a limit
1 - Press Right arrow to enter the limits to change.
2 - Press Down or Up arrow to change the limit.

Data to exit.
Hide MinAir

This function hides the channel when the sensor falls in MinAir. The MinAir is determined using the minimum limit (see Adjust Limit). This feature mainly used on lift axles.

Hide N/A

This function hides a channel if it is «not applicable».

Adjust Date /Time

Lets you edit Date and Time.

To change the settings
Press Right arrow to select each digit of the setting
Press Up or Down arrow to adjust the settings.

Name Kiload

This allows you to name the K2. The identification will appear on print tickets.
Safety Menu

The Safety menu allows you to block the access to different operations of the K2.

If the lock is not enabled, the original password is 0000.

When you enter the password and it is successful, the following message appears:

Password OK!

If you make a mistake in the password the following message appears:

Password Error!

3521

Forgotten Password!

The code that appears in the ERROR PASSWORD message allows you retrieve your password by giving this code to the retailer or manufacturer.
Calibration lock

You can lock four menus simultaneously. (Calibration, Options, Setup, Technician).

1 - Press on Right arrow to switch to Open Origin Lock.
2 - Press Down arrow to go to the menu Z all Data to exit.

IMPORTANT!
The Zero should not be locked. The usefulness of this function allows you perform zero of any empty vehicle. This is used on mechanical sensors where important thermal drifts occur.

Locking Z ALL
Locking Z ALL, will lock the Zero option. Therefore, no possibility of zeros in empty or full.

1 - Press on Right arrow to switch to Open Origin Lock.
2 - Data to exit.

When exiting
Upon exiting Password, you will see the menu "Change Password". At this point, you can change your combination for a new password or maintain the same combination.

To not modify

Press Data two times.

To modify

1 - Adjust each digit using the Down and Up arrows.
2 - Press on Right arrow to jump from one digit to another to exit.
Using a Locked K2

If you lock your monitor, remember that you must unlock your device before any change and lock it again after the change. You can still view the data when the lock is on.

If you go through the menus and request a feature, the following menu will ask for your password.

Once you’ve entered your password you have access to all menus.

When finished, turn the unit off by pressing Off.

Once you turn your K2 back ON, it is locked again.
Technician Mode

Technician menu provides access to technical data and for adjusting the factors and zeros of the unit.

Press Cal and Cycle simultaneously to enter the Menu.

Once in Technician mode, here is what you will see by scrolling down:

Navigating in this menu:

To reach one of these sub-menus, simply press the Down arrow repeatedly.

Back to menu, press Left Arrow.

To exit at any time press Data.

Note! The menus in gray are only displayed if the channel is activated.
Gage A / B / C / D / E

Menu allows the display of live sensor readings. Gage followed by a capital letter shows the average sensor reading for a given channel. To display individual sensor readings, press the Cycle arrow.

Individual sensor readings

Individual sensor readings are displayed in the Gage menu. The first letter indicates the channel and the second letter indicates the sensor on the channel. So AB means the sensor B to channel A. If there is just one sensor, the measurement displayed in Gage will be identical to the average, which is normal because the average is 1. An asterisk (*) indicates that there are no activated sensors in that position.

If there is no gage reading, an error code ( ! or ? ) will be displayed.

Pressure reading will be displayed even in No Air condition.

Zero A / B / C / D

The «Zero» is the initial gage reading when calibrating the empty vehicle. After a calibration, each channel has its own «Zero»

Note!

Once the calibration is completed, the gage value of each channel, with an empty vehicle, must be the same or very close to the initial Zero.

You can adjust the Zero manually on each channel. You can lower, raise, even bring it back to zero. However remember that each time you adjust it, you modify your calibration.
Adjusting Zeros

The following are average gage readings that you should see as your starting point reference. The sensors or transducers should be adjusted between these starting point values when the vehicle is empty.

Air transducer: between 10.00 and 20.00 PSI
Mechanical sensor: between 130.00 and 170.00
Flexmeter: between 20.00 and 40.00

NOTE!
If the vehicle is equipped with a grapple or crane, the values may differ.

The following are average heavy vehicle gage values.

Air transducer: between 50.00 and 150.00 PSI
Mechanical sensor: between 200.00 and 325.00
Flexmeter: between 60.00 and 90.00

IMPORTANT

Cannot enter full calibration weights?
If you enter heavy weight values in the EMPTY CAL with a loaded vehicle, an automatic Zero will be performed by the unit. When this happens, operators usually realize that it is not possible to enter the heavy weight numbers.
ERROR CODES

No AIR

This error code indicates that the sensor does not detect pressure in the air transducer. No Air code is triggered if the pressure is below the selected limit. See Limit No Air. Physically verify that there air pressure reaches the transducer. If there is no pressure, find the source of the problem. If there is pressure and it is not detected by the transducer, make sure that everything is connected and powered. If the problem persists, consult your local dealer.

Unstable air pressure readings

When in Gage reading, if the air transducer relays unstable readings that gradually go down to raise after a while, you may be in the presence of an air leak. Find and repair the leak(s). The leaks makes the reading go down and when the compressor reacts, the readings will raise again.

Non repeatable air pressure readings

In most cases the problem comes from a faulty height leveling valve. To check if your valve is ok, in gage reading mode, dump and fill the suspension at least ten (10) times. If the air pressure does not repeat within 0.5 psi, check and replace or repair the faulty valve.

Mechanical sensors: !A !B !C !D !E

Exclamation mark !A !B !C !D !E will appear in the following conditions:
- The cable end (nipple) is not well attached to the mechanical sensor.
- The mechanical sensor is under or over tensioned. The exclamation point will appear if the gauge reading is outside the range 0 to 325.

![under tensioned](image)


Question mark ?A ?B ?C ?D ?E will appear in the following conditions:
- The sensor cable is not connected to the unit.
- The sensor cable is cut.

Code N/A

N/A Indicates that the channel is not activated. At system start-up, this code will appear for the non activated channels.
**Code OVER**

OVER will appear if the weight readings exceed 99999 for a given channel or total weight. It is theoretically impossible to reach the maximum limit. If it does happen, check the zero, the factor, or the empty weight of the channel indicating the error code.

**Kiload Connector types**

Mechanical Sensor: (stress measurement)
Air Transducer: (Air pressure in PSI)
Flexmeter: (Distance measurement)
Mini Flexmeter: (Distance measurement)
LoadPad and printer: (communication RS-232)
Hydraulic Sensor (stress measurement) or
RS485 output; (communication RS485 or
Speed and direction Sensor
SIM control (module SIM)
Sensor pressure on auxiliary axle
Available channels and sensors SIM

Truck 6X2(2)
Aux C Ref : B Single

Truck 8X4(2)
Aux:C Ref: B Tandem

Truck 8(2)X4
Aux:B Ref: A Single

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Factors

The factor is the coefficient multiplied with the Gage less its zero that produces the weight of a channel.

Channel A weight = ((GA-ZA)*FA)

Note!
You can manually adjust the factor on the channel. You can increase it, decrease it or reduce it to zero. However, remember that this changes your calibration.

When the factor is flashing, press the arrows to change the factor in Point 1. A means the factor of channel A. The S is for the virtual channel of the steering axle. You can change the factor, but not the calibration point. If you do not activate the multi point calibration only Point 1 one is editable.

To change the factor of Point 2 and 3, press the Right arrow. Thereafter, use the Up arrow to go to the next calibration point and repeat the same procedure described above to change the factor.

Tip!
If the numbers and factors in the calibration point are zero, the full weight of the channel is not calculated. The weight displayed will be the empty weight. Channel A weight = ((ZA-GA) * (FA = 0))

To make the factor 0.00 and the reference point, press simultaneously on the two arrows.
In the multi-point calibration if you want to delete a factor and its calibration point, just go to that specific calibration point and reset. The factor will disappear automatically. Refer to previous instructions.

In the multi-point calibration, you erase a factor or factors specifically to redo calibration points that have similar weights to the point that just reset. It is recommended in cases where the calibration is questionable to erase all three calibration points and recalibrate.

In our example, the operator noticed an inaccuracy in the middle load. In this case, he resets the FA2 and FA3 and does the calibration close to these limits. There will be two new calibration points and FA2' and FA3. The new curve will pass through: FA1 - FA2' - FA3. If the error point would have been FA1, it would be necessary to delete all three factors and redo a complete calibration again.
This menu tests each SIM valve. A pulse per second, without interruption, is sent to the selected valve. Use the right arrow to select Blow, Purge or lift. DATA to exit the test menu.

In Inflate position. At each pulse of the valve, the IS output pushes air to the ride suspension air bags. If you disconnect the IS output airline, you'll feel the pulsation of the air coming from the compressor.

In Purge position, you must have previously inflated the Ride suspension air bags to build pressure for the tests that will follow. Each pulse of the valve, the EXV will release air from the Ride suspension.

In the Raised position, disconnect the SL output from the pilot valve. At each pulsation you feel the air coming from the compressor. If it works plug and let the Ride suspension air bags inflate to the maximum. In this case, if everything is connected, you should feel a pulse that pushes air into the SL outlet, at the same time feel the pulsating air coming out of the EXV output.
Error Registry

The error registry indicates the last 20 errors. When the cursor is pointing error press the Right arrow repeatedly to see the last 20 errors.

When you are finished viewing the registry, you can delete all the registry by simultaneously pressing the two arrows.

Error Cal

When the monitor displays an error code, it is not possible to calibrate when the function is in System. If the function is on Channel, it is then possible to calibrate the channels that are not in error code.

When the cursor is on Err Registry press the Right arrow to select Channel or System.

Version

Displays the Version of the software.
**Precision problems?**

It is easy to detect a precision problem on the total gross weight. However we need to pin point the source of the problem in order to fix it. In other words, we need to know from which channel the error is coming from.

The first step is to compare the Kiload and Weigh Bridge empty weights per channel

Note and compare the empty weight for each channel. If there is a significant difference, proceed to adjust the empty weights as previously explained. Make sure that the vehicle is empty when adjusting empty weights.

Then we compare the heavy weights for each channel. If there is a significant difference, proceed to adjust the heavy weights as previously explained. Make sure that the vehicle is full when adjusting full weights.

If the error is still there, repeat the previous steps to confirm that you have found the source.

**Note!**
Follow the same steps for each additional channel.
Take the following data from KILOAD

Before calling your local Cleral dealer, make sure to write down all of the data that is stored in your Kiloald. The technician will surely need the information.

MAKE SURE TO WRITE DOWN THE DATA FOR EACH CHANNEL.

<table>
<thead>
<tr>
<th>Channel</th>
<th>S</th>
<th>A</th>
<th>B</th>
<th>C</th>
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</thead>
<tbody>
<tr>
<td>Suspension configuration</td>
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<tr>
<td>Empty weights</td>
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<td>Heavy weights</td>
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<tr>
<td>Revision</td>
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</tbody>
</table>

The best way to get service is to call the technician while you are safely parked and in a position to manipulate your Kiloald.