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<td>19</td>
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<td>19</td>
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<td>20</td>
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<td>21</td>
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<td>21</td>
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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 Sentinel PS2.

Version and Revision
Some functions described in this manual may not be present in your PS2. This will depend on the version and revision of your device.

Weigh bridge (certified)
Acquire the weights needed to calibrate using a certified weigh bridge (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 PS2. 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, fuel tanks must be full to acquire and record the weights.

Air Leaks
Leaks in the pneumatic system can cause erratic and false weight readings.

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

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.

Batteries (2 X AA)
Do not invert battery position. CLERAL recommends the following batteries:
- Duracell : Power Pix™
- Energizer: Ultimate Lithium™

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.

Data before calling
Before calling for technical assistance, please gather the following information from your PS2. It is the first thing the technician will ask for.

<table>
<thead>
<tr>
<th>Channel</th>
<th>S</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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Thank you for choosing and trusting CLERAL CANADA

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Precision problems?

You can detect a problem of accuracy with the total weight. However, to find and fix a problem of accuracy, it is necessary to discriminate the channel in error to find the source.

The first step is to compare PS2 and Weigh bridge empty weights. Note the weights for each individual channel.

If there is discrepancy, we immediately make the correction in the empty weight calibration. (refer to the calibration pages of this manual).

Repeat the same procedures with a loaded vehicle. Remember that you must be loaded to enter Full weights. Also keep in mind NOT TO GO IN EMPTY CALIBRATION with a loaded vehicle.

If the error persists, repeat the same procedure to determine if the errors always originates from the same place.

Note!
Repeat the same steps for each channel.

Keypad description

On/Off
Access calibration mode. Confirm or advance in menus.

Tare when empty.
Back one step.

Decrease.
Scroll down.

Increase.
Scroll up

Change channel.
Advance in the menu

Back light On/Off
Print.
Transmit data.

Simultaneously to access menu.

Simultaneously to Freeze or Pause.

Sentinel PS2 Flow chart
Navigating in the menus

Sentinel PS2 allows easy access to menus and sub-menus. Refer to the flow chart on previous page.

Being familiar with the flow chart will facilitate the navigation and make your system comprehension better. Here is the principal behind the PS2 navigation.

To enter the menu, press Tare and Cycle simultaneously.

You will see:

➔ Acquire
Options
Configuration
Technician

The curser indicates the position. The arrows are used to scroll down or up as well as decreasing or increasing a given value.

The right arrow is used to enter (move forward) in the menu and the left arrow to move one step backward.

Communication Address

Every PS2, and wireless components, have a unique communication address. This «ID» is indicated on the sticker on the back of your PS2 handheld unit.

The air transducer «ID» is located on the sticker that is on top of the devices.

The multiplexer «ID» is also found on the sticker on top of the device.

Factory reset

NOTE!
After a factory reset, you must reconfigure the device and re-calibrate the virtual steer. There is no need to recalibrate the other channels because the calibration data is stored directly in the sensors.

To reset, turn the PS2 off.

With the unit still turned off, press . The following will be displayed:

At this precise moment, press and maintain pressure on both simultaneously until «Give password» appears. Release the arrows.

At this precise moment, press and use , to enter «1263».

The moves to the next or previous digit.

Give password 1263

Once the password is registered, «PASSWORD OK» will be displayed followed by:

Zmem on

Press to confirm the total unit reset.

Mec Overload No

Press again to confirm:

LoadMNo

Press to confirm and go to the next menu.

The PS2 will display «Setup OK» and will reinitialise the unit.

The PS2 has performed a reset of all its internal memory. The procedure is completed.
Mem Flags

This function generates a code that lets you know the state of the processor. This information can be communicated to the manufacturer if it becomes necessary to resolve internal issues with your PS2.

<table>
<thead>
<tr>
<th>Err Cal</th>
<th>System</th>
<th>Europe EMC</th>
<th>Non</th>
<th>LevelNoise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mem</td>
<td>Flags</td>
<td>1</td>
<td>↓</td>
</tr>
</tbody>
</table>

Version

Displays the Version of the program.

<table>
<thead>
<tr>
<th>Version</th>
<th>3.1</th>
<th>↑</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision</td>
<td>8</td>
<td></td>
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</tbody>
</table>

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<tr>
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<td>8</td>
<td></td>
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</tbody>
</table>

Automatic sensor acquiring

Before calibrating, each activated channel needs to be associated with a sensor (s). To do so you need to acquire the sensors or multiplexers that are connected to that specific vehicle. Each device has a unique address.

Automatic Acquiring

Press ACQ. The PS2 will display «Search».

Here is an example of what the PS2 will have found. The cursor points to the first device found. Displayed is the type of device (Air-mechanical-or flexmeter), the «ID» and the channel associated with the given device.

<table>
<thead>
<tr>
<th>Type of sensor</th>
<th>ID</th>
<th>Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>1872F</td>
<td>B</td>
</tr>
<tr>
<td>Mec</td>
<td>4A11F8</td>
<td>C</td>
</tr>
<tr>
<td>Flx</td>
<td>DD1258</td>
<td>X</td>
</tr>
</tbody>
</table>

Explanation:

Sensor channel (a/b/c/d/e/f/g/h/x)

Sensor «ID»

Order of reception

Curser

Type of sensor (Air/Mec/Flx)

Note!

If the PS2 displays «None» this means that it has not found any device. If this happens, try an automatic acquiring again. If this fails, try a manual acquiring. In case nothing has changed, refer to the Acquiring problems section.

Important!

If a sensor is Fixed on a channel, it does not appear in the search results when acquiring. To see if your channel is fixed, refer to the section Fixing a channel.

Acquiring procedures:

Validate and anchor the channel
Changing the channel
Exit

Selecting and Validating the channel

Use the Down and Up arrows to select all the sensors that are associated to the appropriate channels, press the right arrow to hi-light them.
Changing channel

If a sensor is not associated to the correct channel, bring the cursor to select it and press Data/Print until the channel is correct. Then press the right arrow to highlight it.

Note!
When pressing Data/Print, you will only see the possible channels according to your configuration (A B C D E F G H X), can be displayed. The X means that it is not associated to any channel.

Important!
A configuration cannot have duplicated channels. The PS2 will not allow you to do so. In the example below, it is not possible to anchor the second sensor Air in A because channel A is already associated to a sensor. Every other channel is possible except channel A.

Releasing a channel

If you have mistakenly anchored a channel, you can release while you still in the menu. Replace the cursor on the channel to be released and press Cycle to release the channel. The address is no longer highlighted. Presser repeatedly on Data to select the appropriate channel and Cycle to anchor the new channel. Press to go to the next address.

Exiting the Acquire mode

Once you have selected and highlighted the appropriate sensors, press ACQ.

If you have made a mistake or you are not sure that you selected the correct sensors, press Tare «Cancel».

Since you will be displayed and will take you back to the screen without validating any sensors.

Once you press the Acquire button, the PS2 searches for the sensors and will display «anchor data» indicating that it has loaded the sensors with the corresponding addresses and channels.

Err Cal

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

Level Noise

This function allows you to determine the level of ambient noise. The level is determined on a scale of 0 to 92. The closer to 0 the lesser is the noise and the closer to 92 the higher the noise. This function is used when there is communication problems and RX TX codes.

Europe EMC

Some countries of the European union have higher standards regarding the powers emissions. Check the relevant authorities.

If the standard is high choose YES. The PS2 unit is set to meet the highest standard.

Note!
When this function is set to Yes, the power of communication is weakened.
Multi-point Factor

Simultaneously the multi-point calibration option is enabled, the factors used in the calibration will be active. To move from one factor to another use ➞ . To edit a factor refer to the instruction on the previous page.

➔ FA1  861      208.81
FA2  855      225.33

In the multi-point calibration if you wish to delete a factor and its calibration point, just go about calibration and reset. Factor is automatically deleted. Refer to the previous page for instructions.

In the multi-point calibration, you can delete a factor or factors to repeat precise calibration points.

In our example, the operator notices an inaccuracy in the middle of his load. In this case, he zeros the FA2 and FA3 to redo calibrations close to the real weight limits. There will be two new calibration points FA2’ and FA3. The new curve will pass through: FA1 - FA2’-FA3.

If the point was in error FA1, It have been necessary to delete the three factors and redo the complete calibration all over again.

Errors Register

The Error Register will memorise and indicate the last 20 error codes.

Pressure Stress
Zeros
Factors
➔ Errors Register ↓

With the curser on Errors Register press ➞ to enter the menu. The following will be displayed. Use ➞ to scroll.

➔ Err  0 : A No Air
Err  1 : A Connect
Err  2 : B   !A
Err  2 : B   ?B ↓

When you are done consulting the registry, you can delete all the registry by pressing simultaneously pressing both arrows ➞ .

WiFi Ch Config

To set an address in memory to a given channel. Setting a channel where the address is permanent. This can be done for two channels maximum. This feature is mostly useful for two cases:

CASE 1- When the hand held is always dedicated to the same two sensors on a vehicle (channel A & B).

CASE 2- For tractor-trailer fleets, we usually fix the tractor and leave the semi-trailers free for multiple swapping possibilities. The fleets of tractor-trailer, tractor sets the sensor (Channel A) and left the other free channels for frequent switching trailers.

IMPORTANT !

To fix a sensor it must previously be acquired.

➔ Acquire
Manual Mode ➔ Wifi Ch Config

With the curser on Wifi Ch Config press Cycle ➞ to enter the menu. The following appears showing the channels that are free.

To fix the channel, press Cycle ➞, Free will change to Fix.

➔A: 4BCE56 Fix
B: 4A11F8 Free

Press ➞ to go to B and ➞ to come back to A.

IMPORTANT !

The fixed channels will not appear when acquiring. If you need to see the fixed sensors, you need to change them to Free.

Acquiring in Fleet mode

When acquiring in the presence of multiple instrumented tractors with fixed sensors, only the semi-trailers with free sensors will appear. You only need to select the desired semi and anchor it.

Use ➞ to select the desired semi to anchor. Use ➞ to high light and , ACQ ➞ to confirm and exit.

IMPORTANT !

It is not possible to anchor a sensor on a fixed channel.
Manual sensor acquiring

To manually acquire a sensor, press Tare and Cycle simultaneously to access the menu. Scroll to select Acquire. Press Cycle to enter.

➔Acquire
  Options
  Configuration
  Technician

Use the Up or Down arrow to select Manual Mode. Press Cycle to enter.

Acquire
  Manual Mode
  Wifi Ch Config

This screen will appear.

Enter address

Enter Address

403D817E

Once the last digit entered make sure to press the right arrow or acquire. The PS2 will Search and then will indicate Found 1 if it has found it and the device ID will be displayed.

➔1: Air 3D817E A

To change the channel press Data .

➔1: Air 3D817E B

Once the device has the correct channel, press Cycle to hi-light and confirm. Then press ACQ to validate.

➔1: Air 3D817E B

If no device is found, try again. If still no success, you may have entered the wrong ID. There can also be no or not enough power to the device. Check trouble shooting section.

Factors

Factor is the coefficient multiplied by its Gage minus its Zero which produces the weight on one channel.

Weight channel A = ((GA-ZA)*FA)

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

Pressure Stress
Zeros
Factors
Errors Register

➔FS
FA
FB
FC

With the curser on Factors press to enter the menu. The letter F signifies Factor and the following letter the channel. Thus, FA signifies the Factor for channel A.

Note !
FS is the Factor for the virtual steer axle weight. Which is not a channel.

Modifying a Factor

To modify a Factor, with the curser on the desired channel press use modify the factor. Press to exit this specific channel.

Factor
Point of calibration

➔ FA1 861 208.81
FA2 0 0.00
FA3 0 0.00

Press to select the next channel to modify. Press to exit the factors and to exit.

Suite ➟ 43
**Zeros**

The ‘Zero’ is the Gage reading of a channel at the time the empty calibration is performed. Each channel has its Zero.

**Note!**

Once a calibration is completed, Empty and Full, the gage reading and the zero value should be the same or at least very close, when the vehicle is empty.

The Zero can be manually adjusted. It can be raised, lowered, or even brought back to 0.00. But keep in mind that by doing so you also change your calibration values and this is something that you may not want to alter.

To modify a Zero bring the cursor to the desired channel. Press \( \rightarrow \). Another cursor will appear to the left of the value.

Use \( \downarrow \uparrow \) to change the value. To go back to 0,00, press simultaneously on \( \downarrow \uparrow \).

**Pressure Stress**

\( \rightarrow \) Zeros

Factors

Errors Register

The curser on Zeros press Cycle \( \rightarrow \) to enter the menu. The zero for each channel will be displayed. \( Z \) for Zero and letter \( A \) is the channel. So, \( ZA \) indicates the Zero for channel \( A \).

\( ZA \) 46,83

\( \rightarrow \) ZB 44,13

Only the activated channels will be displayed.

**Modifying a ZERO**

**Acquiring weights for straight body trucks**

The first step in calibrating your PS2 is getting the weight information for each axle groups. Get the steer axle weight for channel \( A \) and then weigh the entire vehicle and subtract the channel \( A \) weight from the total weight to get the channel \( B \) weight.

Once the weights of the tractor are taken, the next step is to acquire the trailer axle group weights. Weigh the whole tractor and then the rear axle group (channel \( D \)) and subtract \( D \) from the whole trailer weight to get channel \( C \) weight.

If the trailer has central axles, as illustrated below, just acquire the whole axle group weight only.
Acquiring tractor and semi-trailer weights

Weigh the tractor only (Channel A) then weigh the whole rig (Total). Subtract the tractor weight from the Total weight to determine the weight of the semi-trailer (Channel B).

Acquiring additional semi-trailer weights

Any additional axle groups should be weighed individually.

Acquiring steering axle weights

In the case where the steering weight is required, acquire by making sure that only the steer axle is on the weigh bridge. To acquire the drive axle weight, weigh the whole tractor and subtract the steer axle weight.

If the steer axle is instrumented: Channel A B C
If the steer axle is not instrumented (Virtual): Channel S A B

Pressure Stress

The Pressure Stress menu will display the average gage readings for each individual channel.

Pressure Stress
Zeros
Factors
Errors Register

➔ Pressure Stress

The curser on Pressure Stress press ➔ to enter the menu. The average gage readings will be displayed. The letter G indicates Gage (gage) and the letter A indicates the channel. So, GA indicates the gage reading for channel A.

➔ GA 85.85
GB 45.48
GC 165.11
GD NO AIR

In the case of error codes, Connect will appear on every channel in error status. The gage readings will be shown for the gages not in error.

IMPORTANT!
It is in this menu that you will see the real sensor readings.

Note!
An error code will appear in this menu if a component is in failure or disconnected. ( !, ?, NO AIR or Connect).

TRICK!
When loaded, if the gage reading for a given channel (i.e.; GA) is equal or very similar to the Zero reading of the same channel (ZA), this would signify that the Empty calibration values were modified with a loaded vehicle. If this happens, you need to recalibrate the Empty values.

Individual sensor readings

In the Pressure Stress menu, bring the curser on the desired channel, press ➔ to display the individual sensor readings.

➔ BA 46.83
BB 44.13
BC *
BD *

In the case of error codes, Connect will appear on every channel in error status. The gage readings will be shown for the gages not in error.

IMPORTANT!
It is in this menu that you will see the real sensor readings.
**Recommended power supply**

**Voltage : 10 to 30 Vdc**
- On power lighter cord

**Voltage : 10 to 36 Vdc** for:
- Air sensors
- Multiplexers
- Transmitters

**Note!**
Low or high power will result in erratic readings and can even damage wireless devices.

**Wire connections**

The black and red wires are connected to the vehicle main power supply. The WHITE wire serves only for automatic acquiring procedures. The white wire should be connected to a temporary power supply that is only activated while the wireless device is being acquired. It can be connected to the break lights or back-up lights for example.

**Batteries (2 X AA) Hand held**

Batteries must generate;
- Minimum: 3,00 Vdc together.
- Amperage minimum: Amp

Only use batteries recommended for digital cameras and nothing less.

**Note!**
It is important not to invert the batteries.
Remove batteries when the hand held is not in use.

Do not use low voltage batteries as it will cause erratic readings and can also cause corruption of the internal memory.

**Calibration Empty**

**Acquire vehicle weights**

Advance the empty tractor only on the weigh bridge. Make sure that the semi-trailer wheels are not on the weigh bridge.

Note the tractor empty weight: **Ex: 13000 Kg**

Advance the entire rig on the weigh bridge.
- **Total Empty weight** : **Ex: 20500 kg**
- **Tractor Empty weight (−)** : **Ex: 13000 kg**

Note the semi-trailer empty weight: **Ex: 7500 Kg**

**Recording the empty weights**

1. **Press Cal to enter the Calibration menu**
2. With the cursor pointing Empty, press the right arrow
3. Use down or up arrow to record channel A weight
4. Press the right arrow to change channel
5. Use down or up arrow to record channel B weight
6. Press right arrow to exit
Calibration Full

Acquire vehicle weights
Advance the Full tractor only on the weigh bridge. Make sure that the semi-trailer wheels are not on the weigh bridge.

Note the tractor empty weight: Ex: 23000 Kg

Advance the entire rig on the weigh bridge.

Total Full weight: Ex: 57000 Kg
Tractor Full weight (-): Ex: 23000 Kg
Note the semi-trailer Full weight: Ex: 24000 Kg

Recording Full weights

1. Press Cal to enter the Calibration menu
2. Use down arrow to move the cursor to Full
3. Press Right arrow
4. Use down or up arrow to record channel A weight
5. Press right arrow to change channel
6. Use down or up arrow to record channel B weight
7. Press right arrow to exit

Positioning wireless devices
Always try to install air sensors, multiplexers, and transmitters on the outside of the vehicle frame and in the best line of sight as possible. The lesser the barriers, the better the communication between wireless devices.

Air connections
Single valve tractor connection is identical to a semi-trailer connection.
Non-repetitive Air sensor reading

In most cases, the problem is the height control valve. To check this, purge and inflate the suspension at least 10 times. If the pressure does not come back to within .50 psi each time, you may have a defective valve. Check to replace.

Mechanical sensor !A !B !C !D !E

The exclamation mark error code ( !A !B !C !D !E ) will appear in these conditions;
- The cable end is not well attached to the sensor. Check the hose clamp.
- The mechanical sensor is under tensioned. The sensor reading will be under 165.00
- The mechanical sensor is under tensioned. The sensor reading will be -325.00 to 165.00.


The question mark error code ( ?A ?B ?C ?D ?E ) will appear in these conditions:
- The sensor is not connected to the multiplexer.
- The mechanical sensor cable is cut or damaged.

N/A Code

This code indicates that the channel is not activated. This will appear non activated channels when the PS2 is turned on.

OVER Code

This code appears if the display counter weight is at its maximum. The maximum count is 99999 for a channel or the total. Theoretically, it is impossible for a counter is at its maximum. In such a case, check the zero, the empty weight or factor of the channel displaying the code.

Multi-calibration

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

Press CAL to enter the calibration menu. Press to select Multi Cal.

With the curser on Multi Cal, press Cycle . The first letter blinks.

Press to change the 0 (non activated) to channel A (activated Multi-Cal on this channel).

Press Cycle to go to the next channel and press to change the 0 to channel B. Only the activated channels will appear.

To exit, press to stop the blinking and press ACQ to exit.

Determining the calibration points

This feature forces you to make three full calibration points instead of one. Here is the method for determining the optimal multi-curve calibration.

First, determine the average weight that you carry on the channel to be calibrated (Fa2 = 14000kg). Then determine the average weight greater than the weight that will never be exceeded (F3 = 17000kg). Finally, determine the weight lower than average weight in which you do not carry (Fa1 = 11000kg). Thereafter it is necessary to calibrate these three points.

Note!

You must respect the legal weight limits at any time.

FYI

In the case of our example, the curve Cs suspension illustrates the deformation of the suspension by weight. The segment Dp1 represents the calibration curve at a single point. As can be seen, there are differences in weight between this line and the curve Dp1 Cs. Cp3 curve is the curve of multi-calibration. We note that the differences are significantly reduced.

Weight

Stress

Fa3

Fa2

Fa1

Cs

Cp3

Dp1
Multi-Cal 3 Point Calibration

Following the determination of the 3-point loading, load and calibrate point 1, 2 and 3. It important to follow the progress of loading the lightest to the heaviest.

Channel A Example

Loading Point 1: 11000 kg

Press \( \) to enter the calibration menu. Press \( \) \( \) \( \) \( \), to bring curser to Full.

Empty ➔ Full

Multi Cal 00

With the curser on the desired channel, use the arrows to record the weight of point 1.

Total : 31000

1 11000 20000

The display shows, at the bottom left corner, the point of calibration that you are recording.

Repeat these steps for Point 2 and 3.

Load Point 2: 14000 kg

Total : 34000

2 14000 20000

Load Point 3: 17000 kg

Total : 37000

3 17000 20000

Important!
If your calibration is not good, you must repeat the entire calibration of the three calibration points.

Important!
If you disabled the Multi-Cal, the factor will that will be used is Point 2, it is determined by the maximum legal weight.

Technical information and trouble shooting

Average reference sensor readings

Here are the approximate zero reference readings that you should see. These are the values to which the sensors should be adjusted when the truck is empty.

Air sensor: 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 has handling equipment mounted on it, like a crane, it is possible that the sensor values could be higher.

These are approximate values with a loaded vehicle:

Air sensor: between 50 and 150 PSI
Mechanical Sensor: between 200.00 and 325.00
Flexmeter: between 60.00 and 90.00

Cannot calibrate Full weights?

There is a good chance that you have entered empty weights with a loaded vehicle. This will result in association the zero values to a heavy vehicle. This will make it impossible to enter the Full weights. The only fix is to empty the vehicle and repeat the calibration procedures.

ERREUR Codes

No AIR, MinAir or Max Air

This error code indicates that the sensor does not detect air pressure. Code No Air is triggered if the pressure is less than the limit listed. View No AirLimit, Min Air or Air. Fix: Physically check that there is air pressure to the sensor. If there is no pressure, find the source of the problem. If there is pressure, check the pressure reading, go to the Gage menu and check the problematic channel. If the sensor still does not read pressure, there may be a problem. Consult your dealer. If the pressure reading is below the limit entered, the sensor operates, you must find out why there is little pressure.

Min Flx or Max Flx

Unstable air pressure

Check the problematic sensor in the Gage menu. Refer to Gage Section. If the pressure reading is unstable and starts to go down, you are certainly in the presence of an air leak. The leak drops the pressure reading and when the compressor restarts, it rises back up.
**Date and Time**

This section explains how to change the date and time in your PS2. This information will be transmitted when transmitting data.

**Note**! The PS2 does not have a back-up battery for the real time clock. You will need to edit each time you change the batteries.

- **Printer add**
- **PS2 Name**
- **Time and date**

Bring cursor to **Time and date**, press **Cycle** to enter.

- **10 : 10 : 41**
  - hh : mm : ss
  - 10 / 01 / 01
  - yy / mm / dd

The cursor points to the time. Press **Cycle**. The time will be hi-lighted and the hour flashes. (hh).

- **10 : 10 : 41**
  - hh : mm : ss
  - 10 / 01 / 01
  - yy / mm / dd

You can now edit the hour using the Down and Up arrows. Use the Left and Right arrows to move to the minutes (mm) and then to the seconds (ss).

Repeat these steps to edit the date.

**Slide FW**

This option lets you see the live distribution of weight of channel A or S when moving the fifth wheel position. This allows weight distribution without having to recalibrate the system.

This option will only be available if you chose a truck configuration with virtual steer weight. (S).

How to use this function:

Access Options and select **SlideFW**.

- **Net weight** Non
- **Language** Eng
- **MeasureUnit** lbs

Press **Cycle**.

**Note:** For optimum precision, stay on flat ground.

Once on flat ground, press **Cycle** to start load distribution. The following will be displayed.

**Cycle if OK**

**Steer**

5000 18000

**Drive**

At this point you can start moving the fifth wheel forward or backward.

**Flat ground**

When moving the tractor under the fifth wheel, the weights of both channels will change live.

**Cycle if OK**

**Steer**

6200 16800

**Drive**

Once satisfied with the load transfer, press **Cycle** to exit.
**Net / Gross Weight**

Net weight is the weight of the load only. The gross weight is the weight of the vehicle and the load together.

**Note!**
You can change from gross weight to net weight without the need to recalibrate.

<table>
<thead>
<tr>
<th>Net weight Off</th>
<th>Language Eng</th>
<th>Unit Measure lbs</th>
<th>Increment 10</th>
</tr>
</thead>
</table>

When the cursor is on **Net weight**, press Cycle to select **On** or **Off**. Press ACQ to exit.

**Units**

You can work in either pound (lbs) or kilograms (kg).

<table>
<thead>
<tr>
<th>Net weight Off</th>
<th>Language Eng</th>
<th>Unit Measure lbs</th>
<th>Increment 10</th>
</tr>
</thead>
</table>

When the cursor is on **MesureUnit**, press Cycle to select lbs for pounds or kg for kilograms. Press ACQ to exit.

**Increment**

You can work either in increments of tens (10) or hundreds (100).

<table>
<thead>
<tr>
<th>Net weight Off</th>
<th>Language Eng</th>
<th>Unit Measure lbs</th>
<th>Increment 10</th>
</tr>
</thead>
</table>

When the cursor is on **Increment**, press Cycle to select the 10 (tens) or 100 (hundreds). Press ACQ to exit.

The following is displayed:

<table>
<thead>
<tr>
<th>➔ Gage ALL 4,32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gage InA 4,32</td>
</tr>
<tr>
<td>Gage InB 4,32</td>
</tr>
</tbody>
</table>

The is cursor on **GageALL**. If there is a value, this will be the gage factor for ALL the inputs. **4,32** is the factory set gage factor.

For technical reasons, it is possible to change the gage factors for individual inputs. In this case **GageALL** would be **0,00**.

<table>
<thead>
<tr>
<th>➔ Gage ALL 0,00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gage InA 3,20</td>
</tr>
<tr>
<td>Gage InB 5,44</td>
</tr>
</tbody>
</table>

The following is displayed:

<table>
<thead>
<tr>
<th>➔ Gage InD 4,32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min Freq 1100</td>
</tr>
<tr>
<td>Max Freq 1400</td>
</tr>
</tbody>
</table>

The minimum and maximum frequencies are displayed. These frequencies should only be modified with the manufacturer's permission.

**PS2 Name**

This menu allows you to name your PS2. Preferably unique, choose a name that will differentiate it from other PS2’s. This name will automatically be transmitted when printing a weigh ticket or when transmitting data.

The name can have a maximum of ten characters. Letters (A-F) and or numbers (0-9).

<table>
<thead>
<tr>
<th>Printer add PS2 Name Time and date</th>
</tr>
</thead>
<tbody>
<tr>
<td>bring curser to <strong>PS2 Name</strong>, press Cycle to enter.</td>
</tr>
</tbody>
</table>

Use the left and right arrows to move from left to right and use the down and up arrows to select the desired character.

Press ACQ to exit.
**Sensor Name**

This function allows you to name the sensor to facilitate its identification. This name is frequently the same as the vehicle’s identification number. The name can have up to four characters and is identified by numbers or letters.

With the cursor on **Sensor Name** press **Cycle** to enter menu. The following is displayed:

- **Cache NoAir:** NON
- **Safety Menu:**
- **Sensor add:**

The cursor multiplexer and the first letter flashing. Modify the name by using **↑**. Use **↓** to go to the next character. Once this line completed, press again. With nothing flashing, you can now use **↓** to go to the next line.

**MulConfiguration**

This function is only accessible if you anchor a multiplexer for mechanical sensors. This function allows you to setup the different parameters for any mechanical sensor inputs.

The cursor on **MulConfig** press **to enter the menu. The PS2 will ask for a password:**

- **Donne mot de passe:** 0000

Enter your administrator password. If no password has been entered, the factory set password is 0000. Following the password, the following is displayed:

- **Mul 5043**
- **TR99**
- **Air 3B3D**
- **1253**

The cursor multiplexer and the first letter flashing. Modify the name by using **↑**. Use **↓** to go to the next character. Once this line completed, press again. With nothing flashing, you can now use **↓** to go to the next line.

**Displaying in tons**

Weight can be displayed in Metric ton (1000 kg) tmet or Imperial ton (2000 lbs) timp

- **TonDisplay:** Off
- **Nb Decimal:** 2
- **Cycle time:** 2
- **Auto Zero:** On

When the cursor is on **TonDisplay**, press **Cycle** to select Off, tmet (metric) or imp (imperial). Press **ACQ** to exit.

**Note!**

Even if you chose to display in tons, you will need to calibrate in pounds (lbs) or kilograms (kg). TM or TM will be displayed on the main screen where kg or lbs would be.

**Number of decimals**

Choose the number of decimals that will be seen when you choose to display in tons. (0-1-2).

- **TonDisplay:** Off
- **Nb Decimal:** 2
- **Cycle time:** 2
- **Auto Zero:** On

When the cursor is on **Auto Zero** press **Cycle** to select the number of decimals you want displayed 0, 1 or 2. Press **ACQ** to exit.

**Cycle time**

Select how long you want the different channel weights will be displayed when in Cycle.

- **TonDisplay:** Off
- **Nb Decimal:** 2
- **Cycle time:** 2
- **Auto Zero:** On

When the cursor is on **Cycle time**, press **Cycle** select between 1 and 15 seconds. Press **ACQ** to exit.

**Auto Zero**

When performing an empty Cal, a zero must be done before recording the weights. This function will perform an automatic zero if the empty weight is changed.

- **TonDisplay:** Off
- **Nb Decimal:** 2
- **Cycle Time:** 2
- **Auto Zero:** On

When the cursor is on **Auto Zero** press **Cycle** to turn auto zero On or Off. Press **ACQ** to exit.
Pause Option

This function freezes the weights between the activation point and the deactivation point. If you activate Pause at 30000 lbs, whenever you deactivate the Pause, say the next morning, the weight will remain at 30000 no matter what, even if there has been temperature changes or other reasons that the weight should have changed.

➔ Opt Pause        Off ↑
  EnergySave       Off
  AutoShutof      On
  Shutoff Tim      5 ↓

When the cursor is on Opt Pause, press Cycle to turn ON or Off.
Press ACQ to exit.

How to use this function:

Step : 1
Place your vehicle on flat ground.

Step : 2
While on main screen, press Up and Down simultaneously and hold for 5 seconds. Pause will be displayed. The weights are frozen.

Step : 3
You can move your vehicle. The weight will not change.

Step : 4
Before deactivating Pause, place your vehicle on flat ground. press Up andDown simultaneously and hold until Pause shuts off. The weight displayed will be the same as when it was frozen and are now live.

Note!
It is important to follow each step to prevent the need to recalibrate.

Tip!
If the Gage reading of pressure or stress (GA) is not equal to the sum of all the sensors on that channel, divided by the number of sensors, you need to perform an empty tare (Zero).

SensorAdd

This function allows you to associate and / or modify sensor inputs or channels or disable them. Possible for the multiplexer, transmitter or sensor tire. The 8 channels are: A / B / C / D / E / F / G / H and 0 for non-activated.

With the cursor on SensorAdd press Cycle to enter the menu. The following is displayed:

➔ Mul 5043
Air 3B3D
FLX

The curser points to the Multiplexer, all 4 inputs are identified as «A» with the first «A» flashing. Use to change the channel that is flashing . Use to change channel. To exit, press after the last channel flashing. You may now use to go to the next line.

Note!
There is always 4 inputs per line (INPUT: ABCD) even in the case where you only need and have one usable input.

Note!
It is possible to have the inputs attributed to different channels.

Example:
In the case of a multiplexer on a straight body truck, it is divided in the following way:
If not successful, the following message will be displayed:

Trouble shooting!
- Check if you have correct address.
- Check connections
- Check power

Using the printer

While on main screen, press Data - Print. Print will be displayed under the vehicle indicating that the data has been sent to the printer or onboard computer.

Battery saver

Wireless communication needs a lot of energy and drains batteries rather quickly. This function reduces the number of requisition by half which helps save battery power. It does not affect precision.

Shut off time

This function lets you decide the delay at which your PS2 will automatically shut off if there is no activity. Make sure that the function is turned On. You decide between 1 and 10 minutes.

RS 232

This function activates the communication to a RS232 device. Don’t forget to configure RS232.
No N/A

This function hides the N/A (non applicable). N/A appears when a channel is activated but does not see a designated sensor.

RS232 Off
➔ No N/A On
Controller Off

Bring the cursor to No N/A press Cycle to select On or Off. Press ACQ to exit.

Controller

Activating wireless controllers.

RS232 On
➔ No N/A Off
➔Controller Off

Bring the cursor to Controller press Cycle to select On or Off. Press ACQ to exit.

Printer address

To communicate with the wireless transmitter that transfers data to a printer or onboard computer, the device address need to be previously registered in the PS2.

The address is located on the device sticker next to «ID». As illustrated below.

Bring the cursor to Printer add press Cycle to enter.

Enter Address

Once the last digit is edited, press Cycle to confirm and exit. At this point, the PS2 will initiate communication with the printer and will try to print a test ticket.

If successful, a weigh ticket with only the Cleral logo will be printed.

Printer test

Manually enter the device address.

Enter Address

Change the number. Numbers 0-9 and letters A to F inclusively.

Once the last digit is edited, press Cycle to confirm and exit. At this point, the PS2 will initiate communication with the printer and will try to print a test ticket.

Enter Address

PN:SWE-232
SN: PR-4037
ID: 403D03322

CLERAL
Onboard Scales-Pesages embarquées
90 Des Distributeurs
Val-D'Or, Quebec, Canada
J9P 6Y1
819 825-5553
www.cleral.com
MADE IN CANADA

➔ Printer add
➔ PS2 Name
➔ Time and date

Manually enter the device address.

Enter Address

40000000

➔

Left and right arrows are used to select the digit to edit. Down and Up arrows allow you to change the number. Numbers 0-9 and letters A to F inclusively.

Suites
Locking

To go to the next lock press the down arrow \( \downarrow \). Use the Up arrow \( \uparrow \) to go back one step.

Continued Locking

Zero, Locks the Tare button \( \downarrow \). Bring the curser to Zero, press Cycle \( \rightarrow \) to select Lock or UnLock.

Tip!

If the vehicle has mechanical sensors, there may be thermal drifts. In this case, being able to make the empty tares is necessary.

Locking Acquire prevents the acquiring of any additional sensors.

Acquire \( \rightarrow \) Lock

\( \rightarrow \) Add sens \( \rightarrow \) UnLock \( \downarrow \)

Bring the curser to Add sens press Cycle \( \rightarrow \) to select Lock or UnLock.

To confirm and exit press ACQ \( \rightarrow \).

The next message will ask you to confirm the pass word. If there are no changes, press Cycle \( \rightarrow \) repeatedly until you exit the menu.

New password

0000

To change your password, use the arrows \( \rightarrow \). To go to the next digit and exit, press Cycle \( \rightarrow \).

New password

3458

Choose truck

Choosing the image for your vehicle configuration.

Choose truck

\( \rightarrow \) Choose truck

Nb channel                      2
SuspensionCfg
NoairLimit                       1

Bring the curser to Choose truck press Cycle \( \rightarrow \) to enter image directory. Use the arrows \( \rightarrow \) to select the vehicle that best suits your configuration. Press ACQ \( \rightarrow \) to confirm.

IMPORTANT!
The image of the truck must match the type of vehicle and number of channels to display. At the right is the image directory stored in the PS2 memory. Below each image notice the truck channel (A & B). The image can be changed later but it must always match the number of channel and vehicle. An image change does not affect the calibration of sensors. If you are trying to acquire sensors C or D and that your image does not show C or D, you will not see them. The PS2 will only search for activated channels. MAN Mode (manual mode) is used when the configuration of the truck does not appear in images or to display no image. When you select a tractor-trailer, SVI will appear in the right corner of the screen. These letters determines the state of the steering axle. Refer you to the next section Choosing a steering axle.
Steering axle

When you select tractor-trailer images, SVI appears in the top right corner of the screen. These letters determine how the weight of the steering axle is calculated.

Once you have selected the desired tractor-trailer image, press Cycle to select S, V or I. Press ACQ to confirm.

S= Standard

The axle is not instrumented and its weight is included in channel A.

V= Virtual :

The weight of the S channel is estimated from the weight applied to the drive axle group (Channel A)

I = Instrumented :

The steer axle is instrumented and becomes channel A.

Nb channel

This function displays the number of active channels based on the displayed image of the truck. This feature is only editable manually.

In MAN MODE (Manual mode) you can choose the number of activated channels. (1 to 7 channels)

Bring the curser to Nb Channel press Cycle to select between 1 to 7 channels. Press ACQ to confirm.

Tip !

The steering axle Virtual (S) and Man Mode can be activated in the Suspension Configuration menu.

Safety Menu

You can lock multiple menus. As needed, a menu or a portion of the menus can be locked or all at once.

The following menu appears. Point the cursor on the first digit of the password if the locking was not enabled the password is 0000.

Give password 0000 ↑

Use the arrows to change the password. (Numbers only 0-9). Use the arrows to move to the next digit or to the previous digit.

Once done, press Cycle to enter lock menu.

If you have entered the correct pass word, the following message will be displayed:

PASSWORD OK!

Forgotten password or password error

If you do not enter the correct password the following message will appear;

Password error 125000

The code under the Password error message is used to get a new password from the manufacturer. Give this code to your local dealer.

With a correct pass word, the following screen appears:

The first menus you can lock are:

- Cal / : Calibration.
- Opt / : Option modifications.
- Cfg / : Configuration modifications.
- Tech / : Technician mode modifications.

Bring the curser to Cal/Opt/Cfg/Tech press Cycle to select Lock or Unlock.
No Air limit

NoAirLimit is where you determine the pressure limit below which the NoAir message is displayed to warn you that there is no pressure in the air sensor. Factory set pressure is 3 psi.

![Gross T: error kg](13000 NoAir)

For example, if you do not connect the air line between the tractor and the semitrailer, the weight of the trailer will not be shown. An Error message and NoAir will be displayed.

Choose truck
Nb channel 2
SuspensionCfg ➔ NoAirlimit 3

Bring the curser to NoAirlimit press Cycle to enter the menu. Use the arrows to select between 1 and 15 Psi. Press ACQ to confirm.

Hide No Air

When enabled, Hide NoAir will hide the No Air message and will not produce an error message. The Total weight will remain displayed.

![Hide NoAir](Off)

Bring curser to Hide NoAir, press Cycle to select On or Off. Press ACQ to exit.

Tip !

This function is very useful with air lift axles.

Suspension Configuration

This indicates the type of sensor in each of the active channels.

Choose truck
Nb channel 2 ➔ SuspensionCfg
NoairLimit 1

Bring the curser to SuspensionCfg press Cycle to enter the menu. Displayed will be:

![Susp MFAA](Virtual Ch S)

In the first line where Susp is displayed, letters are descriptive of the sensor types and the number of letter indicates the number of channels in service (In the example there are 4 channels activated).

Description of sensor types:

A = Air
M = Mechanical
F = Flexmeter
H = Hydraulic
0 = Non activated channel

Tip !

If you decide to drop a semi-trailer, an error message will be displayed. You can change your configuration so the system ignores that specific semitrailer and get rid of the error message.

Dropping a channel in a configuration

In SuspensionCfg menu, press Cycle. Another curser appears under the first letter of the configuration.

Next
Continued Dropping a channel

Use the arrows ▶️◀️ to select the channel to be dropped. Press the UP arrow ↑ to change the channel to 0.
Press ACQ ◀️ to confirm and exit the menu.

NOTE !
After confirmation you cannot return to this menu to re-activate this channel. To re-activate, you must reacquire this sensor.

In our example, you would see the following screen. You will notice that the dropped channel is now marked N/A.

### Suspension Configuration in MAN Mode

In manual mode, you can drop a channel as explained above but follow the following steps to enable the virtual steering axle mode (S).

➔ Susp  M FA 0 0 0 0

While in SuspensionCfg, press the Down arrow ◀️. The curser will point Virtual Channel. Press the right arrow ▶️ another curser appears under the letter.

➔ Susp  M FA 0 0 0 0

Press the Up arrow ↑ to change the X to S to activate or S to X to deactivate. Press ACQ ◀️ to confirm and exit.

NOTE !
Remember that the (S) weight is estimated considering the weight applied on the drive axle group (A).

### TAG Axele (AUTO MODE)

The Tag Axele configuration determines the weight applied on an auxiliary lift axles. When the function is enabled the weight of the tag is displayed. The weight of the axle comes from calculating the weight loss of channel A and B.

### TAG Axele (MAN MODE)

When in MAN MODE, you will need to activate TAG AXLE. With the curser on Tag Axele press Cycle ▶️ to select Yes or No;

➔ Tag Axele YES

Thereafter, you must specify on which channel the Tag is positioned.

### TAG Axele

When the truck is loaded and the auxiliary axle is raised, the weights are distributed as follows;

<table>
<thead>
<tr>
<th>Full</th>
<th>T : 35000 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 10000</td>
<td>B 25000</td>
</tr>
</tbody>
</table>

Before lowering the Tag Axele, Press Down ◀️, the PS2 starts calculating and the new weight distribution is displayed as follows;

<table>
<thead>
<tr>
<th>Full</th>
<th>T : 35000 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 9000</td>
<td>B 21000 C 5000</td>
</tr>
</tbody>
</table>

Before raising the Tag axle, press UP ▶️ then raise it.