RIGHT WEIGH™

CATEGORY B

Installation & Operation Requirements for Regulatory Use (TMA + Smart OBM)



ONBOARD LOAD SCALES

EXTERIOR DIGITAL | 201-EBT-01(B) |
| 201-EBT-02(B) | 201-EBT-04(B) |

tca | Type-Approved™
Smart OBM System (Category B)

Bluetooth®

IMPORTANT!

Thank you for choosing to drive more and scale less. Right Weigh products are designed to be simple to install and easy to use. Installation varies between vehicles, and yours may not be described in this manual; where it is not, contact Right Weigh support before proceeding.

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Right Weigh, Inc. is not responsible or liable for any negative consequences arising from improper installation or operation, including but not limited to product failure or damage that could affect the integrity of the vehicle. The installation steps in this manual are for the sole use of trained installers.

It is the end user's responsibility to be aware of the vehicle manufacturer policies before making modifications to the vehicle. Right Weigh, Inc. is not liable or responsible for issues regarding, but not limited to, warranties with other manufacturers. For a detailed explanation of warranty and liability, see the Warranty, and Returns Policy & Repairs sections, or head to www.rwls.com/warranty.

Regulatory Basis:

Right Weigh 201-EBT-01(B), 201-EBT-02(B), and 201-EBT-04(B) Load Scales are Transport Certification Australia (TCA) Category B type-approved Mass Sensor Units (MSU). To operate under the National Telematics Framework as part of a Smart OBM system, each MSU must be paired with a type-approved telematics device issued by a certified Application Service Provider (ASP). For the TCA OBM System Specification, see www.tca.gov.au/publication/obm-system-specification.

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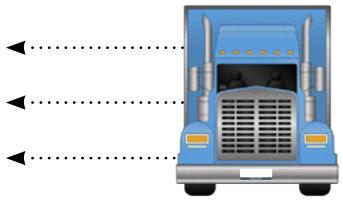
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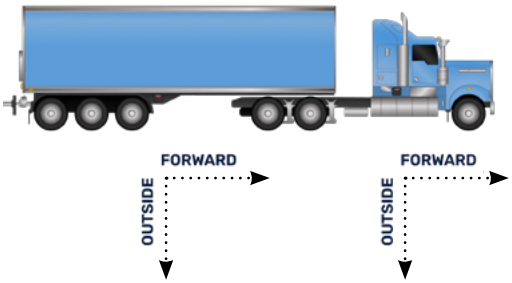
Required for the Best Bluetooth® Performance

For a reliable connection between your Load Scale and Bluetooth devices, including your Application Service Providers (ASPs) in-cab unit, follow these installation requirements when choosing the placement and location of each Load Scale (MSU).



Install on the correct side:

Mount all Load Scales on the same side of the vehicle as the in-cab Bluetooth device—typically the driver's side.



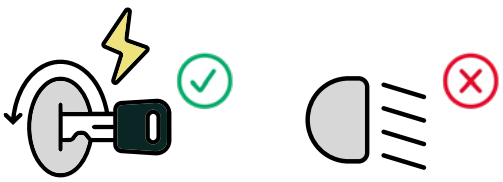
Position as far forward, and outward as possible:

Mount each Load Scale towards the front of the vehicle or asset and as close as possible to its outer edge.



Maintain a clear line of sight:

Do not install the Load Scale behind or beneath metal objects, including toolboxes, air tanks, chassis rails or custom metal enclosures.



Power from ignition source only:

The Load Scale must be powered from an ignition source. Not with lights/accessories or a constant power source.

Compliance Checklist

To ensure your Right Weigh Digital Load Scales (MSUs) meet TCA Category B type-approval requirements and are ready for connection to a partnered ASP, all MSUs must comply with the requirements outlined below. Use this quick reference checklist to confirm your installation is compliant and operational.

☑	**Transport Certification Australia (TCA) Requirements**
☐	**The full combination is fitted with a TCA type-approved MSU:** 201-EBT-01(B), 201-EBT-02(B), and/or 201-EBT-04(B); and is operating on an approved firmware version.
☐	MSUs are **not installed** on any drive unit or asset fitted with a **drop axle** or **lift axle**.
☐	All MSUs **are installed** with a **clear line of sight** from drivers seat in the prime mover.
☐	All MSUs are connected to an **ignition-powered** supply.
☐	All MSU installation events are recorded in the **Installation Log**.
☐	All MSUs are fitted with a **Security Seal Kit** (909-SSK), and the details are recorded in the **Installation Log.**
☐	Each MSU is set to operate in **AVG**, **S-AVG**, **S-IDP**, or **IDP** mode, as required by the vehicle configuration.
☐	The **Remote Sensor feature** is **disabled** on all MSUs.
☐	Both **low** (empty) and **high** (loaded) **calibration** complete on **all axle groups** and recorded in the **Calibration Log**.
☐	A **security PIN code** has been **set** on all MSUs.
☐	A **six-month calibration** and **maintenance** check has been **scheduled**.

Technical Specifications

Specifications relating to 201-EBT-01(B), 201-EBT-02(B), and 201-EBT-04(B).

Operating Temperature: -30 °C to +85 °C

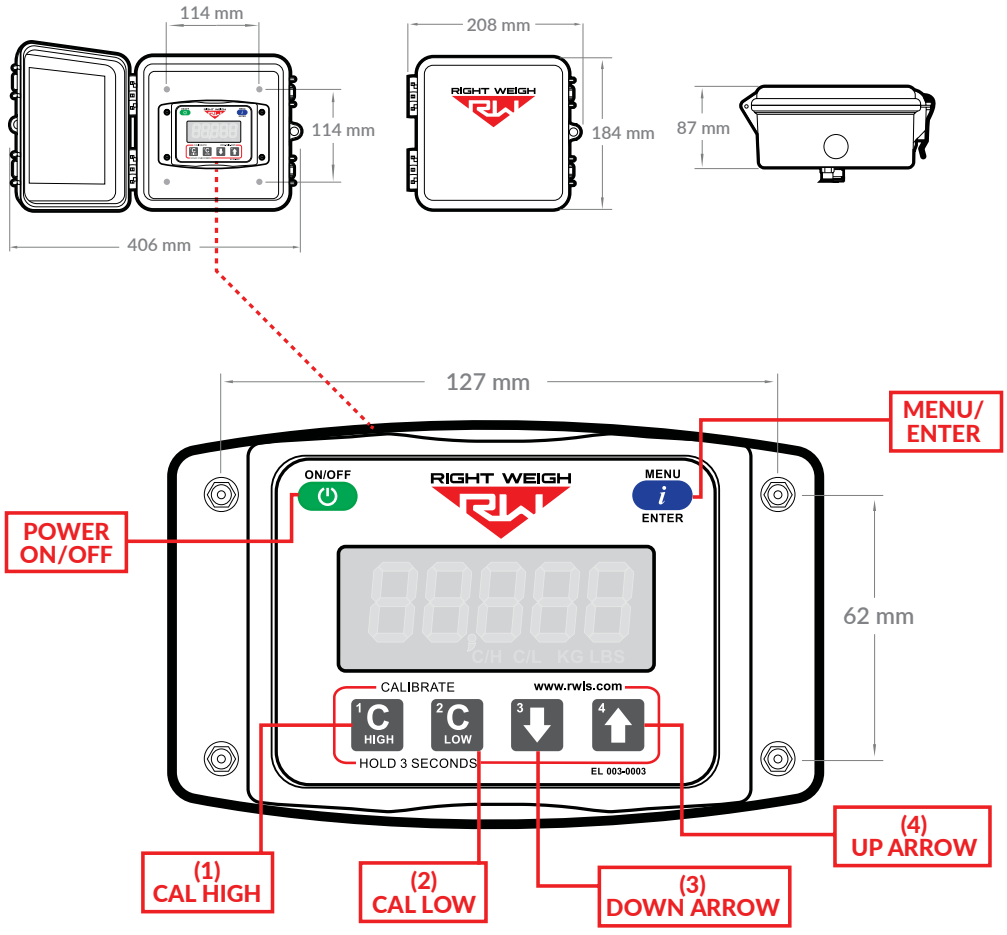
Storage Temperature: -40 °C to +85 °C

Power Requirement: 9 V DC to 32 V DC (Switched)

Units: Pounds (LBS) or Kilograms (KG)

Housing: High-impact polycarbonate blend

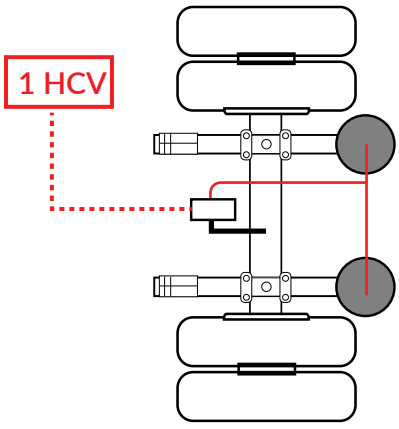
Display: 0.8-inch sunlight readable LCD



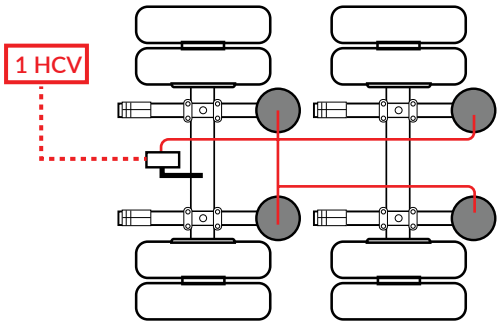
The Right Weigh **201-EBT-01(B)**, **201-EBT-02(B)**, and **201-EBT-04(B)** suit different axle groups and HCV configurations. Use the table below to identify the correct MSU for your configuration.

MSU Model	Sensors	What Is Monitored
201-EBT-01(B)	1	One internal air pressure sensor to monitor a single, tandem, or tridem drive-axle group or a trailer axle group serviced by one Height Control Valve (HCV).
201-EBT-02(B)	2	Two internal air-pressure sensors monitor one air-suspension axle group with two height control valves (HCVs), or two axle groups with one HCV each. An axle group may be a single, tandem, or triple set of axles on the truck or trailer.
201-EBT-04(B)	4	Four internal air-pressure sensors monitor a tandem-axle air-suspension drive group in which the four air springs may have different pressures. The system averages the four pressures to calculate weight accurately. The scale can also monitor four separate axle groups, each with one HCV.

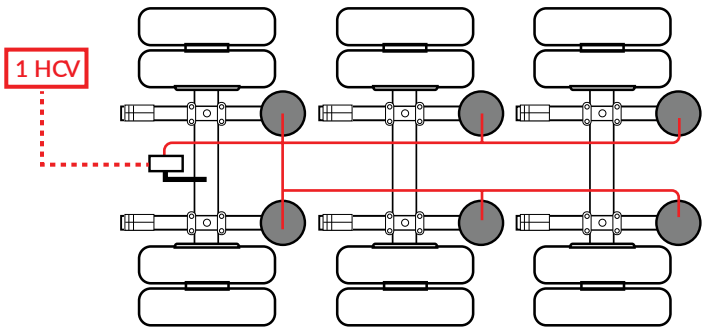
201-EBT-01(B)



Single Axle Group



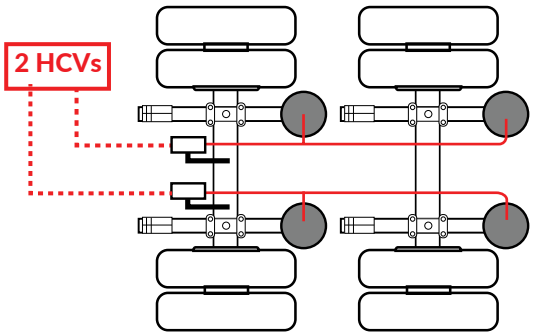
Tandem Axle Group



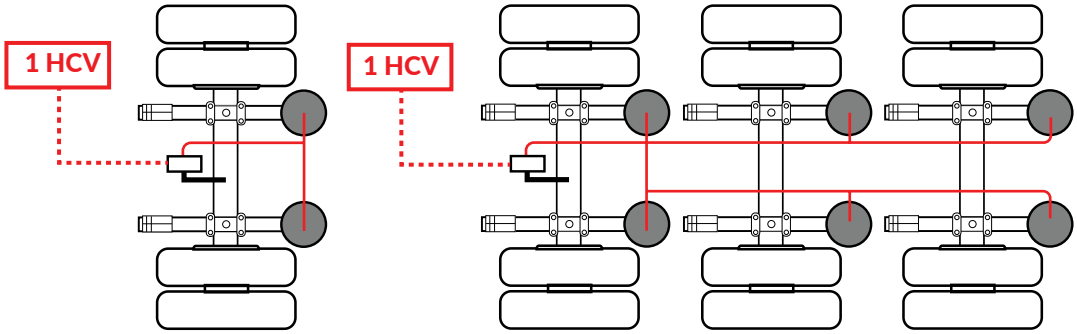
Tri Axle Group

201-EBT-02(B)

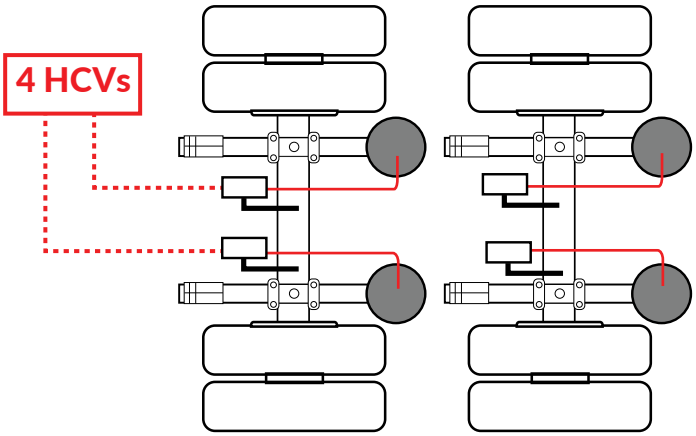
One Axle Group with 2 HCVs



Two Axle Groups with 1 HCV Each



201-EBT-04(B)



This section outlines the mandatory requirements for installation, calibration, operation, maintenance and record keeping to keep you compliant with your Smart OBM requirements.

Vehicle/MSU Eligibility

- The Right Weigh TCA type-approved MSUs are the Exterior Digital Load Scales, model numbers 201-EBT-01(B), 201-EBT-02(B), and 201-EBT-04(B).
- The MSUs can be used on vehicle configurations with air suspension only, and must not be used on a drop or lift axle.
- All MSUs must run a TCA-approved firmware version. The current list of approved firmware versions is available on the Right Weigh website.
- To meet Category B type-approval, all instructions and operational information in this manual must be followed.

Record-Keeping Requirements

All installation, calibration, maintenance, and security seal events must be documented and retained. TCA may request any record at any time, and records must be provided to your ASP on request.

- The required MSU identification information can be found on page 33.
- The required documentation is located on the log pages at the back of this document (PP-003-0065, pages 42-44. This document should be kept with the vehicle at all times.

Record	What Must Be Captured		Frequency
Installation Log	• MSU Serial No. • Cable Serial No. • Tamper-Evident Label Serial No. • Cable Seal Serial No. (Harness)	Record these against the vehicle registration number, registration state, VIN, and asset type (e.g. prime mover, trailer, dolly).	Every Install
Calibration Log	Each calibration event (high and low) for each axle group.		6 Months
Maintenance Log	Each maintenance event, incl. diagnostic values and pass/fail result.		6 Months

Power Requirements

All MSUs must receive power from an ignition-switched source. For trailers and dollies, use the AUX/ABS wire in a 7-point harness for the power connection.

Security Seal

The 909-SSK Security Seal Kit must be fitted at the time of installation to prevent tampering. Instructions are included with the kit.

Operating Mode & Prohibited Features

Each axle group in the vehicle's configuration must collect and report a weight. The correct operating mode, must be set to match the vehicle configuration. The permitted operating modes are AVG, S-AVG, IDP and S-IDP.

The following are not type-approved and cannot be used:

- Multiple Calibration Mode (4CAL)
- The Remote Sensor Feature

Calibration

- All axle groups must undergo both a low (empty) and a high (loaded) calibration.
- All axle groups must be recalibrated every six (6) months, or whenever the suspension is repaired or modified, using both low and high calibration.
- Each axle group must have a mass resolution of 10 kg.

Security PIN Code

A security PIN code must be set on every MSU to prevent the driver or any unauthorised person from tampering with calibration data.

Maintenance

All MSUs must have a maintenance check performed every six (6) months, or whenever the vehicle's suspension is repaired or modified.

Connection to Application Service Providers (ASPs)

To use your Load Scales for Smart OBM, the vehicle must also be fitted with a type-approved telematics device issued by an ASP. For partnered ASPs, see https://tca.gov.au/smart-obm-systems.

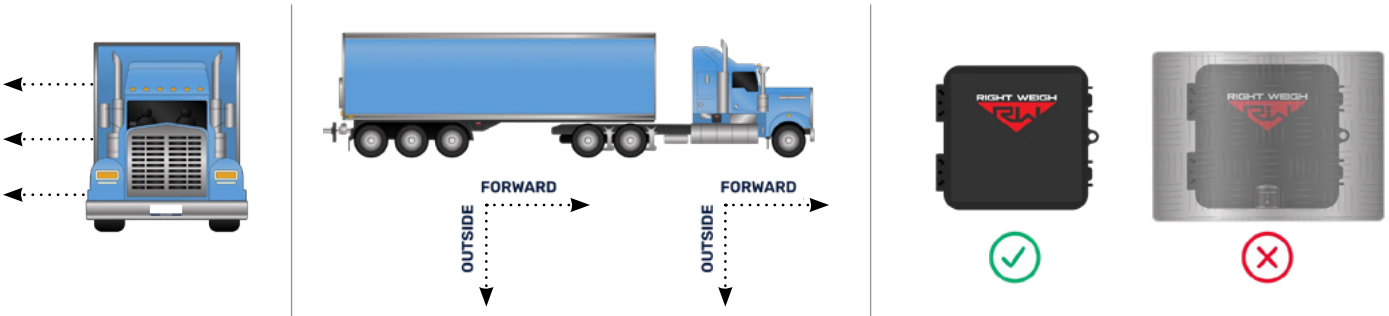
- Connect each MSU to the type-approved telematics device issued by your ASP. The connection process varies by ASP; follow their instructions.
- The ASP must confirm all MSUs meet Category B requirements, and that installation, operation, calibration and documentation are complete and correct, before they can issue an enrolment.
- Once enrolled in a TMA mass monitoring scheme, you must report mass and configuration data whenever the vehicle operates.
- If a malfunction occurs, your ASP may contact you to assist with troubleshooting and return the Smart OBM system to correct functionality. For hardware faults, contact Right Weigh support.

1 Choose Correct Install Location

The Load Scales are designed to be externally mounted, but must be installed inside the supplied protective enclosure using the provided bracket. Correct placement of each Load Scale is essential for a reliable Bluetooth® connection to your Application Service Provider's (ASP) in-cab unit and other connected devices.

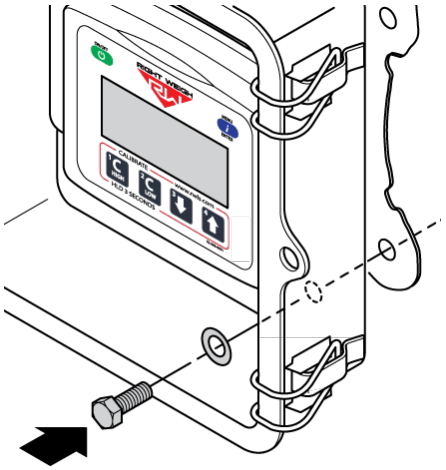
Location Required for Best Bluetooth® Performance:

Refer to "Installation Quick Reference Guide" on **page 4** for details on preferred install location (i.e. one side of the vehicle only, forward, outwards, and not shrouded). Bluetooth® range is between 10 and 60 meters, depending on the device connected.



2 Mount the Bracket

Mount the bracket in the chosen location and install the gauge box to the bracket using the supplied hardware.

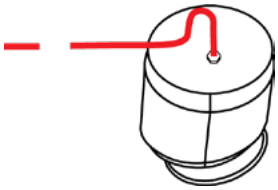


- Do not mount the scale directly to the chassis or any other main beam unless approved by the vehicle manufacturer, as this may void the vehicle warranty.
- Use both supplied mounting bolts to secure the bracket to the vehicle. Using only one bolt can crack the bracket and cause the scale to fall off.

3 Dump Air from Suspension System

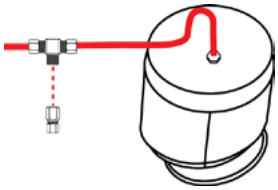
4 Cut Existing Air Line

Cut the air line going to one of the air bags in the suspension group to be monitored.



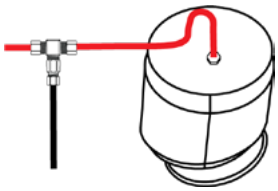
5 Assemble Tee Fitting

Choose a tee fitting that matches the size of the existing air line, then install a female NPT tube fitting onto the tee as shown. Use Teflon tape or equivalent to seal threads, tighten securely. For more information on the parts needed for air line installation, see Appendix A.



6 Install Tee Fitting

Insert the cut ends of the existing air line and the new 1/4” air line into the tee fitting assembly as shown. Tighten all three tube nuts securely.



7 Route Air Line to Gauge

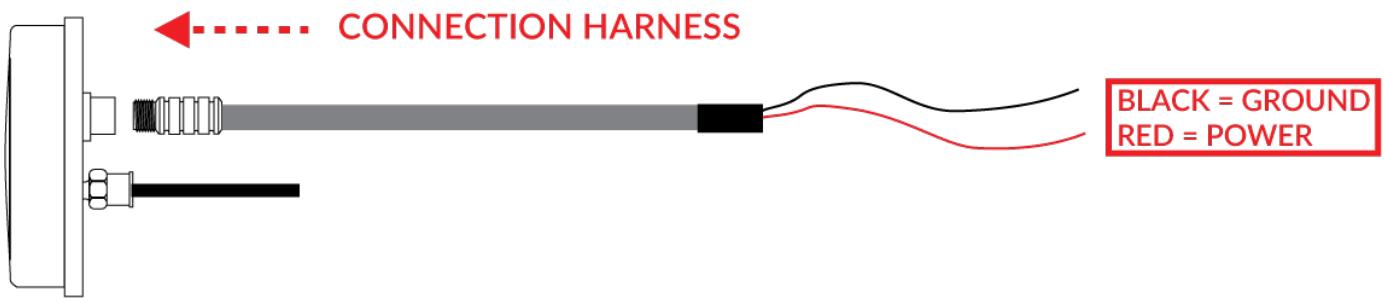
Route the new 1/4” air line from the tee fitting assembly to the gauge. Secure air line with zip ties. Insert the air line into the push-to-connect fitting on the back of the gauge. **DO NOT ROTATE THE AIR FITTING!**

For the **201-EBT-02(B)** or **201-EBT-04(B)**, **repeat steps 4-7 for each remaining HCV**. Each air line should run to the air bag connected to that HCV. Make sure one air line is connected to each axle group being monitored.

8 Install Power Cable

Connect the male harness connector to the female connector on the back of the scale. Align the small cut-outs on both connectors, then press the connector firmly into place. Thread the collar onto the scale until it is hand-tight.

The two unterminated wires supply power to the MSU. Connect the RED wire to a switched positive (+) ignition power source and the **BLACK wire** to chassis ground (–). The power supply must be between 9 and 32 V DC. For more information about wiring connections and insulation, see Appendix B.



DO NOT connect directly to a **battery** or **constant power source**. The gauge **must be connected to an ignition-switched source**, so it disconnects from power when not in use.

- For trailers and dollies, use the **AUX/ABS wire** in a **7-point harness** for the power connection.
- The air fittings on the back of the gauge are directly connected to the internal circuit board. Applying ground(-) or positive(+9-32) voltage to air fittings will cause immediate air sensor failure!
- Electrical connections **must** be insulated. See Appendix B for instructions.

9 Log Record of Installation

You must log the relevant installation details in the Installation Log after each install.

Installation Compliance Checklist

To ensure your installation is compliant with TCA requirements, refer to this quick reference checklist:

☑	**TCA - Installation Requirements**
☐	MSUs are **not installed** on any drive unit or asset fitted with a **drop axle** or **lift axle**.
☐	The **Remote Sensor feature** is **disabled** on all MSUs.
☐	**Position the MSU** to provide a **clear, unobstructed line of sight** from the prime mover **driver's seat**.
☐	All MSUs are connected to an **ignition-powered** supply.
☐	All MSUs are fitted with a **Security Seal Kit** (909-SSK), and the details are recorded in the **Installation Log.**
☐	All MSU installation events are recorded in the **Installation Log**.
☐	A **six-month calibration** and **maintenance** check has been **scheduled**.

MSU Interface Overview



POWER:

Turn the scale on and off to view axle group weights.

WEIGHT:

Weight of the selected axle group.

AXLE GROUP INDICATOR:

Indicates which axle group is being displayed. No indicator means the gross weight is being displayed and a flashing indicator means the remote sensor weight is being displayed.

CALIBRATE:

Press and hold C HIGH (while loaded) or C LOW (while empty) for 3 seconds to enable calibration (allows the weight number to be adjusted by using the arrow buttons), press the button again to save and exit calibration.

CALIBRATION INDICATORS:

These indicate that calibration is enabled and that the weight can be adjusted using the arrow buttons. C/L indicates calibrate low is enabled, and C/H indicates calibrate high is enabled.

MENU/ENTER:

Press this button to switch between axle groups being displayed.

UNITS:

Units are displayed in either pounds (lbs) or kilograms (kg).

ARROWS:

Press these buttons to adjust the weight number up or down when calibration is enabled.

KEYPAD FUNCTION GLOSSARY

Function	Description	Button Sequence	
		HOLD	PRESS
Power On/Off	Power the display on or off. Note: Pressing the ON/OFF button while in a configuration menu saves the selection and powers off the display.		ON/OFF
Next Axle Group / Screen	Cycles to the next axle group or menu selection.		MENU i ENTER
Change Units	Press while weight is displayed to change the units from pounds (lb) to kilograms (kg).	4	MENU i ENTER
Set Operating Mode	With the display off, use this key sequence to enter the operating mode selection menu. Use the UP arrow button to cycle through the menu options. See Operating Modes section.	3 4	ON/OFF
Remote Sensor Feature	With the display off, use this key sequence to enter the menu to enable or disable the Remote Sensor Feature. Use the UP arrow button to cycle through the menu options. 0 = disabled, 1 = enabled.	1 C HIGH MENU i ENTER	ON/OFF
PIN Code	With the gauge off, use this key sequence to create or change an existing PIN Code. See Security PIN Code section.	1 C HIGH 2 C LOW	ON/OFF
Diagnostics Menu	With the display off, use this key sequence to enter the diagnostics menu and view diagnostic data for the gauge. See Diagnostics Menu section.	MENU i ENTER	ON/OFF
Set Empty Calibration	While the desired axle group is shown, press and hold the C LOW button until the C/L indicator appears. Use the arrow buttons to adjust the displayed weight to match the actual axle group weight. Press and hold the C LOW button until the C/L indicator disappears to save.		2 C LOW
Set Loaded Calibration	While the desired axle group is shown, press and hold the C HIGH button until the C/H indicator appears. Use the arrow buttons to adjust the displayed weight to match the actual axle group weight. Press and hold the C HIGH button until the C/H indicator disappears to save.		1 C HIGH
Adjust Weight Value	While calibration is enabled, adjust the weight value using the UP and DOWN arrows.		3 OR 4
Next Selection	The UP arrow is used to change selections in the menu screens.		4
Set Measurement Mode	With the display off, use this sequence to change the measurement mode. DEF (Default) - absolute weight (LBS or KG). PC (Percentage) - percent of load (0-100%).	1 C HIGH 4	ON/OFF
RS232 Config Menu	With the display off, use this key sequence to enter the RS232 configuration menu.	2 C LOW 3	ON/OFF

Estimated Steer Axle

Each axle group in the vehicle's configuration must collect and report a weight. If the drive unit's steer axle group does not have an HCV, the steer axle weight can be estimated instead, using Estimated Steer, provided this scale is also monitoring the prime mover/drive unit's drive axle group.

Estimated Steer is an estimated readout of the steer axle weight, calculated without a sensor on the steer axle itself. This feature is often more accurate than measuring the weight change with an air or strain sensor. Estimated Steer is set using the MSU's operating mode.



Estimated Steer is for use on prime movers with a fifth wheel hitch only; it will not work on rigid trucks or car haulers. Re-calibration is required after changing the position of a sliding fifth wheel.

If the combination's prime mover is a rigid, a different MSU variant is required. These variants are not TCA type-approved. For more information, contact Right Weigh support.

Operating Mode Definitions

Each vehicle configuration requires a specific operating mode. The operating modes **available on all** MSU variants are:



S-AVG (Sensor Average and Estimated Steer) - Prime mover drive axle group, with Estimated Steer.



AVG (Sensor Average) - Trailer, one axle group.

The **201-EBT-02(B)** also supports two additional modes:



S-IDP (Independent and Estimated Steer) - Prime mover drive and trailer axle groups, with Estimated Steer.



IDP (Independent) - Two axle groups, monitored independently.

See the tables on the following pages to find your vehicle configuration and set the gauge to the corresponding operating mode.

The Load Scale can only be set up in one operating mode at a time. If the mode is changed, the calibration data will be reset to factory defaults, requiring re-calibration.

Operating Modes for Vehicle Configurations

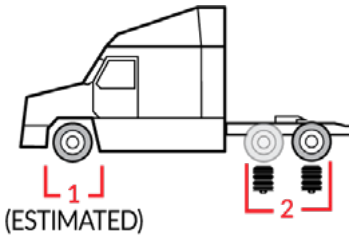
See the tables below to find your vehicle configuration and set the gauge to the corresponding operating mode.



AIR SUSPENSION

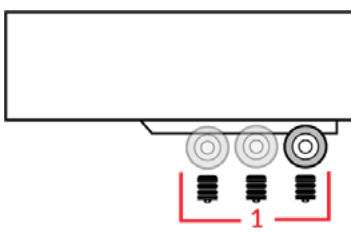
AVG and **S-AVG** are available on all MSU variants, **201-EBT-01(B)**, **201-EBT-02(B)**, and **201-EBT-04(B)**.

Prime Mover / Drive Unit

Vehicle Configuration	Operating Mode
 **Axle Group 1** - Estimated Steer* **Axle Group 2** - Air Suspension Single, Tandem, or Tri Axle Group (1 HCV, 2 HCV, or 4 HCV).	

**Recalibration of the steer axle is required after sliding fifth wheel.*

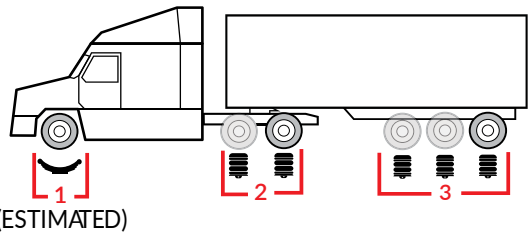
Trailer / Dolly

Vehicle Configuration	Operating Mode
 **Axle Group 1** - Air Suspension Single, Tandem, or Tri Axle Group (1 HCV, 2 HCV, or 4 HCV).	

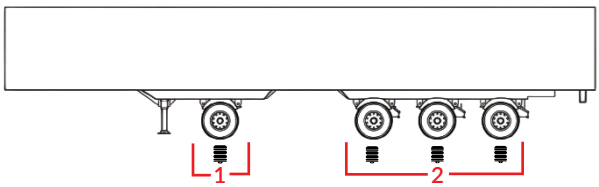
AIR SUSPENSION

S-IDP and **IDP** are only available when using the **201-EBT-02(B)** gauge variant.

Prime Mover / Drive Unit

Vehicle Configuration	Operating Mode
 (ESTIMATED) **Axle Group 1** - Estimated Steer. **Axle Group 2** - Drive Axle Group Air Suspension Single, Tandem, or Tri-Axle Group (1 HCV). **Axle Group 3** - Trailer Axle Group Air Suspension Single, Tandem, or Tri-Axle Group (1 HCV).	

Trailer / Dolly

Vehicle Configuration	Operating Mode
 **Axle Group 1** - Air Suspension Single, Tandem, or Tri Axle Group (1 HCV) **Axle Group 2** - Air Suspension Single, Tandem, or Tri Axle Group (1 HCV, 2 HCV, or 4 HCV).	

Changing Operating Mode

1 With the scale **OFF**, press and hold both the **UP** and **DOWN** arrow buttons, and then press the **ON/OFF** button. Release all three buttons. The scale will display the current mode.

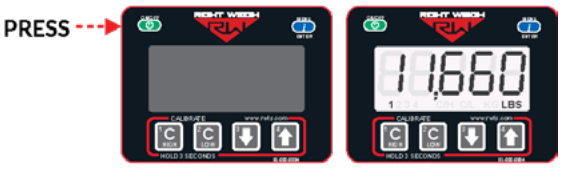


2 Press the **UP** arrow button to cycle through the operating modes. To confirm your selection, turn the scale off by pressing the **ON/OFF** button.



Operating the Gauge Interface

1 Press the **ON/OFF** button to turn on the scale display. The small numbers at the bottom left of the screen indicate which axle group is currently being displayed. Each number corresponds with an axle group, starting with 1 at the front of the vehicle and incrementing back.



2 Press the **MENU** button to cycle the display to the next axle group.



3 A **solid** axle group indicator represents an axle group that is connected directly to the gauge.



4 No visible axle group indicator, following the brief message "**GroSS**", represents the gross weight screen. This is a sum of all the axle group weights.



Changing Units



With the gauge on, press and hold the **UP ARROW** and then press the **MENU** button. This will toggle the settings between pounds and kilograms.

Calibration Frequency

The **201-EBT-01(B)**, **201-EBT-02(B)**, and **201-EBT-04(B)** Load Scales **must be calibrated** at both **low** (empty) **and high** (loaded) points to work properly, and **recalibrated every 6 months** or whenever the suspension is repaired or modified. Each scale associates the weight you enter with the air pressure in the suspension system at the time of calibration. For each axle group being monitored, you will need to perform a low (empty) calibration and a high (loaded) calibration, and **record this against the Calibration Log**.

> ⚠ Only enter the **on-the-ground weight** of the axle or group being monitored**. DO NOT** use gross weight, tare weight, etc.

Calibration & Weighing Preparation

1. Obtain all axle group weights from a certified in-ground scale (weigh bridge).
2. Park on a level surface. Shift the transmission to neutral and set the parking brake.
3. Chock the wheels to prevent unexpected vehicle movement, then release the parking and service brakes.
4. Make sure the Height Control Valve (HCV) has fully inflated the air bags. If needed, briefly dump the air from the suspension and allow the HCV to refill the system.

Setting Low (Empty) Calibration Point

1. Complete the **calibration and weighing preparation** steps **(see page 22)**.

2. Press the **ON/OFF** button to turn on the Right Weigh Load Scale.



3. Press the blue **MENU** button to select the proper axle group or calibration set.



4. Press and hold the **C LOW** button until the “C/L” symbol appears.



5. Adjust the value using the **UP/ DOWN** arrows so that it matches your scale ticket for the axle group.



6. To save, press and hold the **C LOW** button until the “C/L” symbol disappears.



Once complete, **repeat steps 2-6 for each remaining axle group**.

Setting High (Loaded) Calibration Point

1. Complete the **calibration and weighing preparation** steps **(see page 22)**.

2. Press the **ON/OFF** button to turn on the Right Weigh Load Scale.



3. Press the blue **MENU** button to select the proper axle group or calibration set.



4. Press and hold the **C HIGH** button until the “C/H” symbol appears.



5. Adjust the value using the **UP/ DOWN** arrows so that it matches your scale ticket for the axle group.



6. To save, press and hold the **C HIGH** button until the “C/H” symbol disappears.



Once complete, **repeat steps 2-6 for each remaining axle group**.

SECURITY PIN CODE

A security PIN code **must be set** on the MSU to prevent the driver or any unauthorised person from tampering with calibration data. Once set, the 5-digit PIN will be required to access calibration at any time, and it cannot be removed. If you need it removed, contact Right Weigh Support, listed on page 2.

Setting the PIN Code

1 With the gauge off, press and hold both the **C LOW** and **C HIGH** buttons, then press the **ON/OFF** button. Release all three buttons. The gauge will display “CodE”.



---

2 Press the **MENU** button and “00000” will display on the screen. **Enter a 5 digit PIN** code using the **1, 2, 3,** and **4** buttons. Press the **MENU** button again to save the code.

***If the display shows “-----”, then there is already a code set.*



Changing the PIN Code

1 With the gauge off, press and hold both the **C LOW** and **C HIGH** buttons, then press the **ON/OFF** button. Release all three buttons. The gauge will display “CodE”.



2 Press the **MENU** button and "-----" will display on the screen. **Enter the previous PIN** code. If the code entered is correct, the display will show "Good".



3 Press the **MENU** button and **enter the new 5-digit PIN** code using the **1, 2, 3,** and **4** buttons. Press the **MENU** button again to save the code.



MSU Maintenance & Recalibration

Maintenance and recalibration must be completed every six (6) months, or whenever the vehicle's suspension is repaired or modified.

Complete each test listed in the Maintenance Log by performing the diagnostics check in the next section, then tick the corresponding box once a passing result is achieved. Once all tests have passed, recalibrate the gauge for each axle group being measured. Each maintenance and recalibration event must be recorded against the Logs found at the back of this document.

⚠ If the gauge fails any of these checks (or you find that the gauge is inaccurate after re-calibration) please **call Right Weigh technical support** for assistance, info on page 2.

Diagnostics

Entering the diagnostics menu is used when performing 6-month maintenance checks, or when diagnosing a problem and taking a closer look at the current state of the gauge. The following instructions show how to enter the diagnostics menu and navigate through each of the diagnostics screens.



To enter the Diagnostics Menu: With the display off, press and hold the MENU button and press the ON/OFF button. Release both buttons once the display illuminates.



FIRMWARE (screen #1)
When the display turns on it will show the firmware number.
Press the MENU button to cycle through the following screens.



DISPLAY (screen #2)
This screen is a display check. Check that all characters are on, see the example image on the left.



BLUETOOTH (screen #3)
This screen displays a unique Bluetooth identifier programmed on the gauge. This is the number you will see when connecting to a smart device for the first time.
If this is blank, the Bluetooth transmitter has failed. Disconnect from power, reconnect, wait 10 seconds, and try again.



AIR SENSOR(S) (screen #4)
This screen displays the air suspension pressure (in psi) measured by the internal air sensor(s) and should be between 18 and 90 psi with the vehicle's air bags inflated. If applicable, press the UP arrow to display the pressures for the additional sensors.



BAROMETRIC SENSOR (screen #5)
This screen displays the barometric pressure (in psi) measured by the barometric sensor and should be between 13 and 16 psi.



OPERATING MODE (screen #6)
This screen displays the operating mode that the gauge is configured in. To change please see the Operating Modes section of this manual for more information.



KEYPAD TEST (screen #7)
This screen will show "PAD 0" and pressing each of the buttons should show a separate number listed below:

C HIGH = PAD 1
C LOW = PAD 2
= PAD 3
= PAD 4
ON/OFF = PAD 5

Press the MENU button to go back to screen #1 and then press the ON/OFF button to power off the gauge and exit the Diagnostics Menu.

If rSEn is enabled, the rSEn pressures with be displayed on screen #6 (rSEnA and rSEnb if applicable). **If this shows, the Remote Sensor function must be disabled.**

Operating & Weighing

1. Park on a **level surface**. Shift the transmission to **neutral** and set the **parking brake**.

2. **Chock the wheels** to prevent unexpected vehicle movement, then **release** the **parking and service brakes**.

3. Make sure the Height Control Valve (HCV) has **fully inflated** the air bags. If needed, briefly dump the air from the suspension and allow the HCV to refill the system.

4. Press the **ON/OFF** button to turn on the Right Weigh load scale.

5. Adjust the suspension or the load itself until the Right Weigh load scale displays a weight value **below** your legal limit.

6. Press the blue **MENU** button to display other axle groups or calibration sets.

7. Press the **ON/OFF** button to turn off the Right Weigh load scale.

Calibration & Maintenance Compliance Checklist

To ensure your calibration & maintenance is compliant with TCA requirements, refer to this quick reference checklist:

☑	**TCA - Calibration & Maintenance Requirements**
☐	All MSUs are **set to the correct operating mode** (AVG, S-AVG, IDP, or S-IDP) for the vehicle configuration, and each axle group is **reporting a weight**.
☐	4CAL **is not** in use.
☐	The Remote Sensor feature is **disabled** on all MSUs.
☐	Both **low** (empty) and **high** (loaded) calibrations are **complete** on all axle groups.
☐	Each calibration event is recorded on the **Calibration Log**.
☐	A security **PIN code has been set** on all MSUs.
☐	A six-month **recalibration and maintenance** check has been **scheduled**.

CONNECTION TO YOUR ASP

Each Right Weigh MSU must be connected to a type-approved telematics device issued by an Application Service Provider (ASP).

The connection process, setup requirements, and any required software or mobile app will vary by ASP. Always follow your ASP's specific instructions for connecting and configuring the MSU with their telematics device. See a list of partnered ASPs via the TCA website: https://tca.gov.au/choose-a-service-provider/

IMPORTANT!

- If your ASP connects to the MSUs via Bluetooth, you will not be able to connect to the Load Scale via the Right Weigh Load Scale app at the same time. Each Load Scale can only connect to one device at a time.
- Bluetooth connection with your ASP device must be maintained with all MSUs on the vehicle for the weight information to be considered valid.
- If your combination has more than one MSU, configure it with your ASP in front-to-back order, following your ASP's configuration instructions.
- The ASP must confirm all MSUs meet Category B requirements, and that installation, operation, calibration, and documentation are complete and correct, before they can issue an enrolment.
- Once installed and connected, operate the MSU as outlined in this Installation & Operation Manual and in accordance with your ASP's requirements.
- Once enrolled, you must report mass and configuration data from all axle groups in the vehicle whenever it operates.
- If a malfunction occurs, your ASP may contact you to assist with troubleshooting and return the Smart OBM system to correct functionality. For hardware faults, contact Right Weigh support.

For more information on Telematics Monitoring Scheme participation and requirements, see the TCA website: https://tca.gov.au/hardware/

MSU IDENTIFICATION & KEY INFORMATION

The MSU identification and key information identifies the unit and may be needed by your ASP to connect the MSU, complete pre-enrolment checks, and support troubleshooting. Record all MSU identification and key information on the Installation Log at the rear of this document.

The RS232 Serial Number, Bluetooth (MAC) Address, Firmware Number, and Model are printed on the product label on the right-hand side of the protective enclosure. You can also confirm the Bluetooth (MAC) Address, Firmware Number, and Operating Mode through the Diagnostics Menu, shown below by screen number.

RS232 Serial Number:

The unique serial number assigned to the MSU (Example format: 1H073338 | 00053271).

Bluetooth (MAC) Address *(Diagnostics Screen #3)*:

The address used to connect the MSU to your ASP's telematics device. Must also be recorded at each Maintenance Check (Example format: B4:35:22:4A:95:B3).

Firmware Number *(Diagnostics Screen #1, labeled "FirM")*:

The firmware version installed on the MSU (Example format: 52.007)

Model:

The Right Weigh MSU Model (Example format: 201-EBT-01(B), 201-EBT-02(B), or 201-EBT-04(B)).

Operating Mode *(Diagnostics Screen #6)*:

The operating mode set for your vehicle configuration (Example format: S-AVG | AVG).

Security Seal Numbers:

The three unique numbers on the seals from the Security Seal Kit (909-SSK):

- Cable Seal Serial Number – Enclosure Mount
- Tamper-Evident Label Serial Number
- Cable Seal Serial Number – Harness Connector

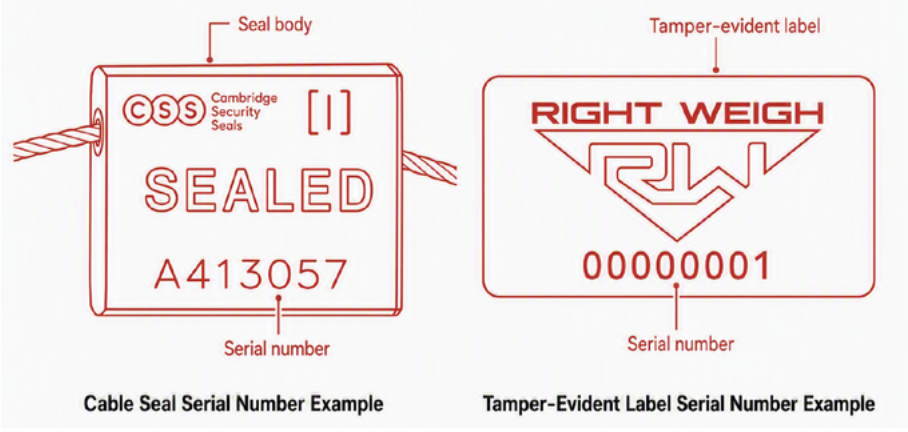
MSU Info →



Example Sticker →



Example Security Seals →



PROBLEM	CAUSE	SOLUTION
Erratic / Inaccurate Weight Readings	The vehicle is not parked on a level surface	Park on level concrete ground. Parking on sloped or banked surfaces will cause the vehicle weight distribution to shift between the axle groups. Additionally, if one or more of the vehicle's wheels are in a pothole, that could result in additional pressure or torque on the suspension air bags. This will cause the suspension to have a different air pressure than what is normally needed to hold up the given weight.
	The vehicle's brakes are on	Release the parking brakes when weighing and/or calibrating. When the vehicle brakes are set, they could apply additional pressure or torque on the suspension air bags. This will cause the suspension to have a different air pressure than what is normally needed to hold up the given weight.
	There is a significant air leak in the suspension system	Check air lines for leaks. Having a leak could cause the HCV to refill the suspension at regular intervals to maintain the vehicle's ride height. If there is a significant leak, the gauge display will slowly decrease in value and then quickly increase in value when the HCV refills the suspension system.
	The Height Control Valve (HCV) is malfunctioning or broken	If the HCV is not functioning correctly, the air pressure applied to the suspension system could be inconsistent and/or erratic. To test for an HCV problem, acquire a weight reading from the Right Weigh gauge and write it down (refer to gauge operating instructions for proper procedure). Drive the vehicle around the block and return to the same location. Acquire a second reading from the Right Weigh gauge. If the two readings are significantly different, then the HCV might be malfunctioning.
Gauge reading "noAir"	One or more air inputs are not receiving air (If 2 air sensors are set to Average mode and one isn't receiving air, gauge will read noAir message)	Check that all air inputs are receiving air. Pull airline out of air fitting(s) on the back of the gauge. Follow the airline along the vehicle to the airbags to check that it hasn't been pinched or damaged. Dump suspension and refill to ensure air bags are full.
App Won't Connect to the Gauge	Scale is connected to a constant power source	Connect the scale to a switched power source between 9 and 32 VDC (typically either the vehicle marker lights or the AUX/ABS wire). If the gauge is powered too long it can stop transmitting a Bluetooth signal and may need to be disconnected and reconnected to work again.
	Scale is connected to another device	Disconnect the scale from the other device before connecting through your device.
	Phone requires re-set	To reset your phone - close the app, turn off Bluetooth, and wait 10 seconds. Then open the app and turn the Bluetooth back on. Try rescanning for the scale. If this still doesn't work, in some cases it is necessary to restart the phone completely.
Gauge Will Not Calibrate Low/High	Air pressure in the system is not changing	To enter low or high cal mode, the gauge must see a measurable change in air pressure. Make sure you calibrate high when the vehicle is near the legal limit and calibrate low when the truck is empty. Also, be sure the air line is connected directly to an air bag - NOT the main air supply or brake system.

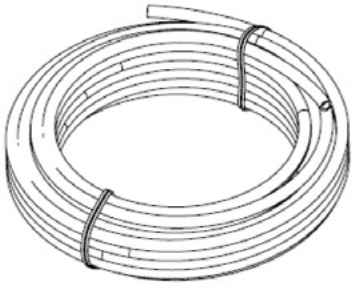
PROBLEM	CAUSE	SOLUTION
Scale Does Not Power On	Scale is not connected to a switched power source of between 9 and 32 VDC	Connect the scale to a switched power source between 9 and 32 VDC (typically either the vehicle marker lights or the AUX/ABS wire). If there is a bad connection in the circuit which causes voltage to drop below 9 volts, the scale will not power on. Test the power source with a voltmeter.
	Scale is connected directly to the battery	Connect the scale to a switched power source between 9 and 32 VDC (typically either the vehicle marker lights or the AUX/ABS wire). The scale is active anytime it is connected to power, even if the display is off. To reset it, disconnect and reconnect to the power source, wait 10 seconds, then try again to turn the display on.
	Polarity is incorrect	Correct the polarity. The red wire must be connected to positive and the black to negative.
Cannot Change Calibration Data	The scale has an active user-defined security PIN code	If the scale is protected with a PIN code, the PIN must be entered before calibration data can be changed. To understand how to reset the PIN code, see page 24-25. If the PIN code has been forgotten, please call Right Weigh technical support listed on page 2 for further assistance.

Additional Parts

The following is a list of additional parts needed for air line installation. This list is just a suggestion and may not be all of the parts needed for your specific vehicle. These parts are sold separately in the 103-SK kit:

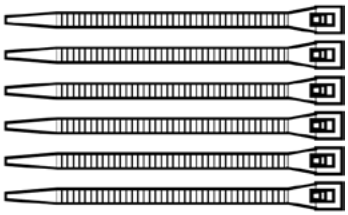
1/4 Inch Air Line

Approximately 6 to 9 meters.



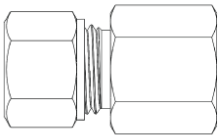
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15 or more Zip Ties



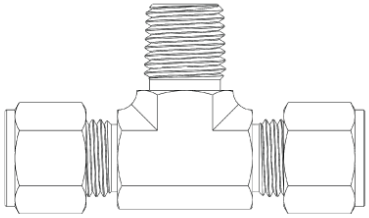
Tube to Female Thread Fitting

Tube fitting for 1/4” air line, with a thread size to match the male branch tee fitting.



Male Branch Tee Fitting

The tube fitting size should match that of the existing air line that supplies the suspension air bag.



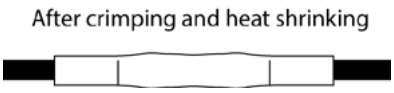
Wiring Connections

It is important that all wiring connections be made watertight. Connections which are not watertight can develop corrosion and result in loss of contact over time. Heat shrink type butt connectors are recommended.

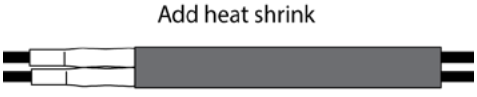
Crimp each end of the wire into the connector with a wire crimp tool (tool not provided).

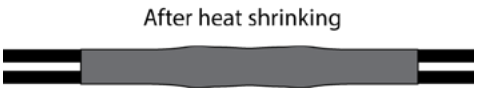


With a heat gun or heat torch, **heat the connector until it shrinks** completely around each wire end. Make sure you do not burn the wire jacket.



After all connections have been made, **heat shrink the entire group of splices** so that it seals on the outer jacket of both cables.

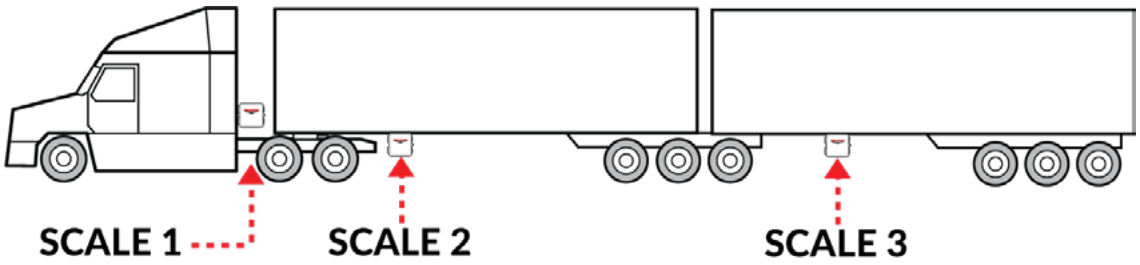




General RW / ASP App Use Information

Be sure to add the scales on the app in the correct order, front to back. If the trailer scales are in the wrong order, delete them and re-add them in the correct order

(If connected with an ASP, follow the equivalent guidance for proper setup and utilisation according to your ASP requirements)).



Up to 6 MSUs (scales) can connect to an ECU at a time (as per TCA requirement). **Signal strength is best when the phone has a direct line-of-sight to the scales. Metal obstructions will reduce the Bluetooth range of the system.** Make sure that all scales are connected before taking a weight reading. In some cases, it may be necessary to step out of the vehicle to connect to scales that are far away.

The MSU can only hold a connection to one Bluetooth device at a time. If other drivers near by need to connect to the scale, make sure to delete it off the app in use so that it can be discoverable to other devices.

⚠ If Bluetooth connection between any MSU and the device/ASP application in use fails, **DO NOT** utilise the weight data until successful reconnection is completed.

WARRANTY

Right Weigh is committed to providing quality products that function as intended, and we always stand behind our workmanship. Our industry leading warranty is our best effort to express this commitment. Products manufactured or sold by Right Weigh, Inc. are warrantied to be free from significant defects in material and workmanship 3 years from date of purchase. During this time, and within the boundaries set forth in this warranty statement, Right Weigh, Inc. will, at its sole discretion, correct the product problem or replace the product.

This warranty shall not apply to product problems resulting from: (1) Improper application, installation, incorrect wiring, or operation outside of the approved specifications of the product. (2) Accidents, faulty suspension parts or power surges (3) Inadequate maintenance or preparation by the buyer or user (4) Abuse, misuse, or unauthorized modification. (5) Acts of God, lightning strike, floods, fire, earthquake, etc.

Right Weigh, Inc. assumes no responsibility or liability for any loss or damages resulting from use of Right Weigh, Inc. products.

In no event shall Right Weigh, Inc. be liable for direct, indirect, special, incidental or consequential damages (including loss of profits or loss of time) resulting from the performance of a Right Weigh, Inc. product. In all cases, Right Weigh, Inc. liability will be limited to the original cost of the product in question. Right Weigh, Inc. reserves the right to make improvements in design, construction, and appearance of products without notice.

Return Policy and Authorisation

Before returning any product, please obtain a Return Merchandise Authorisation number (RMA#) by calling Customer Service at +61 418 622840 or e-mailing leigh@rwls.com.au. Include the RMA# and information regarding the reason for the return with the returned product. Shipping costs for returns must be prepaid by the customer. For your protection, items must be carefully packed to prevent damage in shipment and insured against possible damage or loss. Right Weigh, Inc. will not be responsible for damage resulting from careless or insufficient packing or loss in transit.

An RMA# must be obtained by the original purchaser before any product can be returned. Only new, unused products may be returned. Installed, used, damaged, modified or customized products can not be returned for credit. Credit will be issued to the original purchaser after evaluation by Right Weigh, Inc.

Repairs/Replacements

An RMA# must be obtained before any product can be returned. Right Weigh, Inc. will evaluate returned products at no charge. If Right Weigh, Inc. determines that the returned product is under warranty it will repair the product or parts thereof at no charge, or if unrepairable, replace it with the same or functionally equivalent product whenever possible. Right Weigh, Inc. will return the product at its expense via a shipping method (carrier to be at sole discretion of Right Weigh, Inc.) equal to or faster than the method used by the customer. Products or parts thereof not covered by warranty will be repaired or replaced at customer expense upon authorization by the customer. Right Weigh, Inc. will return the repaired product at customer expense via a shipping method (carrier to be at sole discretion of Right Weigh, Inc.) equal to or faster than the method used by the customer.

Right Weigh 201-EBT-01(B), 201-EBT-02(B), and 201-EBT-04(B) Load Scales are TCA (Transport Certification Australia) Type-Approved Mass Sensor Units (MSUs), part of a Category A and Category B Type-Approved On-Board Mass (OBM) system. This organization approves automotive technology that follows a set of guidelines to ensure consumer safety and device reliability. For more information visit their website at: https://tca.gov.au/publication/obm-system-specification/

Please follow the instructions in the Installation & Operation Manual to correctly install and calibrate the MSU. To comply with TCA requirements, the following pages must be used to record all calibration and maintenance events. **This document must be kept with the vehicle at all times.**

Installation Registration

Vehicle Information	
VIN (Vehicle Identification Number):	
Vehicle Type:	
MSU Information	
Model:	
Firmware Number:	
Hardware Version:	
BT MAC Address:	
RS232 Serial Number:	
Operating Mode:	
Security Seal Information	
Cable Seal Serial Number - Enclosure Mount:	
Tamper-Evident Label Serial Number:	
Cable Seal Serial Number - Harness Connector:	
Installation Information	
Name of Installer:	
Date:	
Time:	

Please follow the calibration steps in the Installation & Operation Manual to correctly calibrate the MSU. The MSU MUST be checked for accuracy every 6 months and re-calibrated. Log calibration data (before and after) in the table below.

Calibration Log

Axle Group 1							
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	

Axle Group 2 (*if applicable*)							
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	
Date:		BEFORE Calibration	Empty Weight:		AFTER Calibration	Empty Weight:	
Time:			Loaded Weight:			Loaded Weight:	

To be sure the MSU is functioning properly, a maintenance check is required every 6 months. Follow the below steps to check MSU functionality. Record the following diagnostics values when applicable. For instructions on how to find these values, please see pages 29-30.

Maintenance Log

Name:		BT MAC Address:		Air Sensor 4:	
Date:		Air Sensor 1:		Barometric Sensor:	
Time:		Air Sensor 2:		Keypad Test:	
Display:		Air Sensor 3:		Initials:	
Name:		BT MAC Address:		Air Sensor 4:	
Date:		Air Sensor 1:		Barometric Sensor:	
Time:		Air Sensor 2:		Keypad Test:	
Display:		Air Sensor 3:		Initials:	
Name:		BT MAC Address:		Air Sensor 4:	
Date:		Air Sensor 1:		Barometric Sensor:	
Time:		Air Sensor 2:		Keypad Test:	
Display:		Air Sensor 3:		Initials:	
Name:		BT MAC Address:		Air Sensor 4:	
Date:		Air Sensor 1:		Barometric Sensor:	
Time:		Air Sensor 2:		Keypad Test:	
Display:		Air Sensor 3:		Initials:	
Name:		BT MAC Address:		Air Sensor 4:	
Date:		Air Sensor 1:		Barometric Sensor:	
Time:		Air Sensor 2:		Keypad Test:	
Display:		Air Sensor 3:		Initials:	
Name:		BT MAC Address:		Air Sensor 4:	
Date:		Air Sensor 1:		Barometric Sensor:	
Time:		Air Sensor 2:		Keypad Test:	
Display:		Air Sensor 3:		Initials:	
Name:		BT MAC Address:		Air Sensor 4:	
Date:		Air Sensor 1:		Barometric Sensor:	
Time:		Air Sensor 2:		Keypad Test:	
Display:		Air Sensor 3:		Initials:	
Name:		BT MAC Address:		Air Sensor 4:	
Date:		Air Sensor 1:		Barometric Sensor:	
Time:		Air Sensor 2:		Keypad Test:	
Display:		Air Sensor 3:		Initials:	