AppWeigh Steel Suspension Kit – User Install Guide

Thank you for purchasing the **AppWeigh "No Scale Load Scale"** Steel/Mechanical Suspension kit! This product is intended for **SELF-INSTALL ONLY**. This document provides the step-by-step instructions for assembling and installing the Steel Suspension kit onto the vehicle as well as installing, configuring and calibrating the **AppWeigh** system. Additional installation details can be found on our website at www.appweigh.com.au/support/sensor-faq

This one-time installation process consists of three main parts as described in this document:

1. **Assemble and install the Steel Suspension kit onto the vehicle**
2. **Install and configure the AppWeigh app and sensor on your smartphone / tablet**
3. **Calibrate the AppWeigh system**

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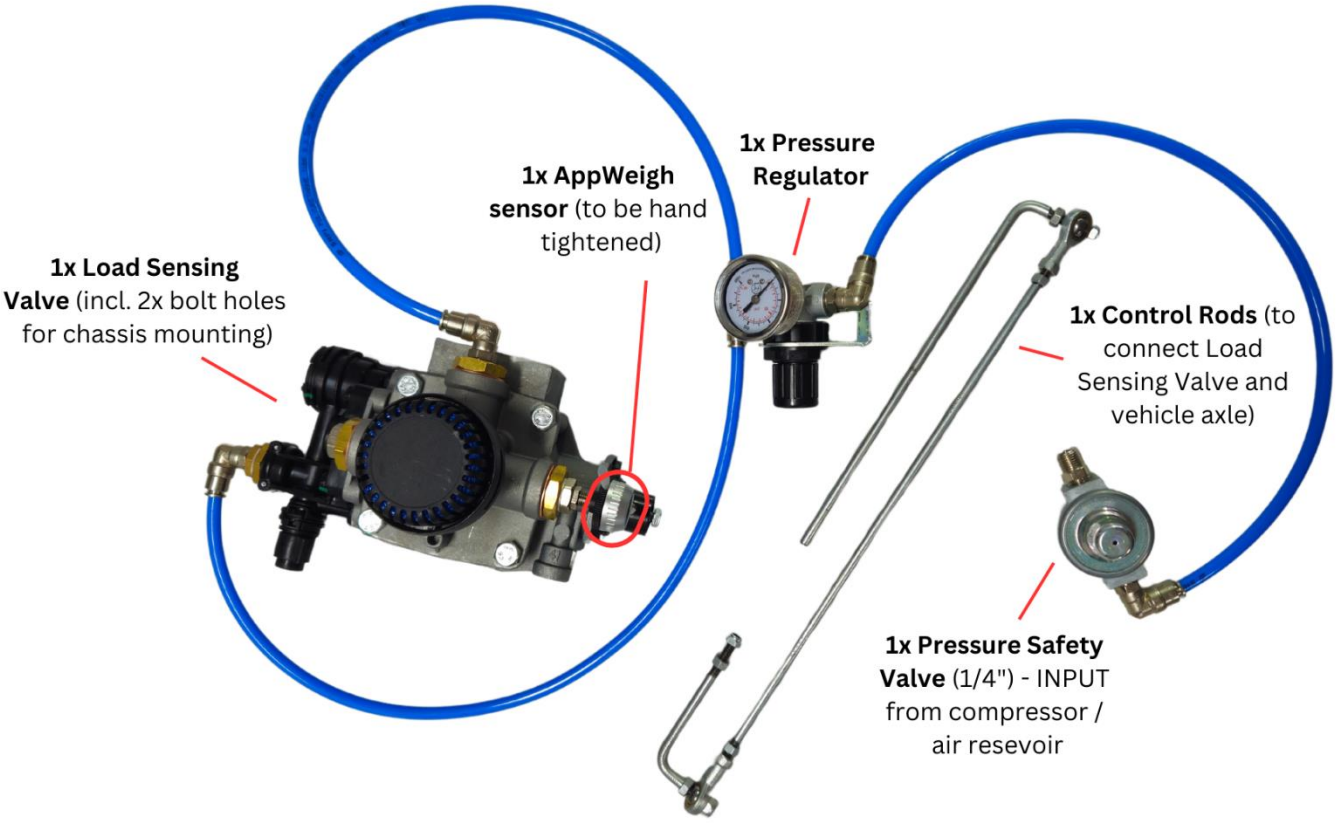
1. Assemble and install the Steel Suspension kit

The Steel Suspension kit should include the following pre-assembled equipment as shown below:



Important:

- The pressure imposed on the **Pressure Safety Valve** must be ~5bar (70psi) or more for the valve to

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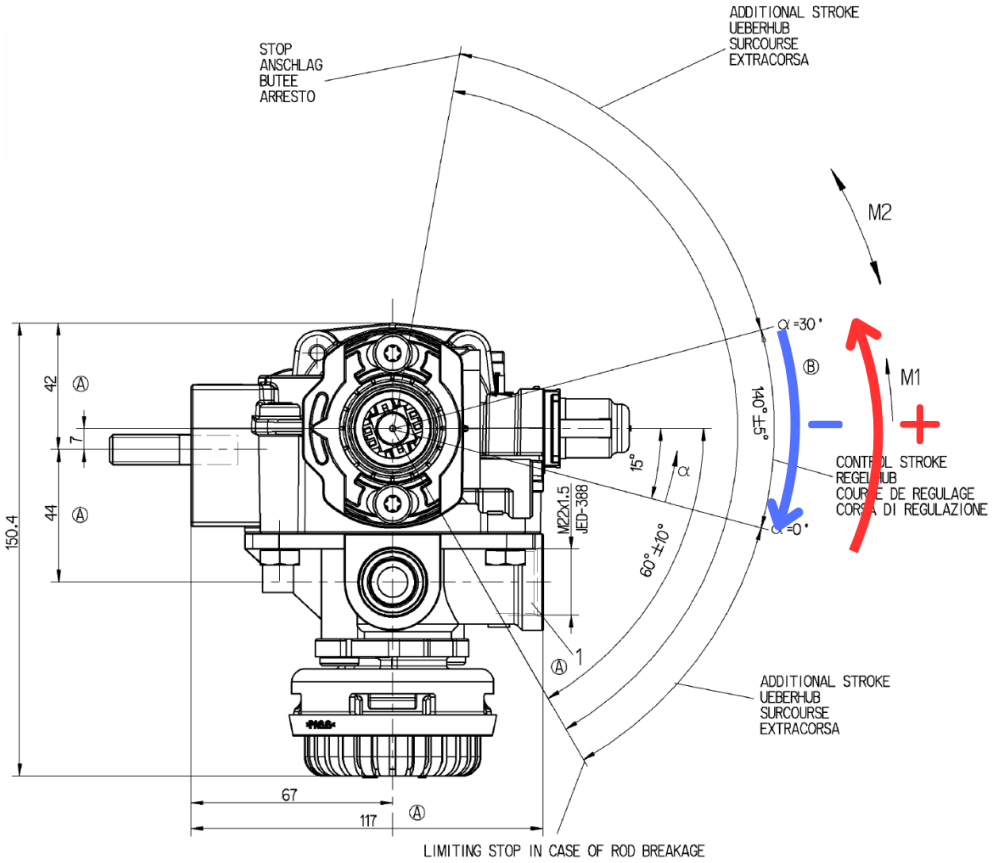
open and the system to work.

- The **Pressure Regulator** must be manually set to suit the installed configuration e.g. 2bar (~30psi). For vehicle suspensions with shorter travel distances, you may need to increase the Regulator pressure to for example, ~50psi. This increased pressure helps to accommodate setups with small travel distances. Setting the regulator pressure must be done before calibrating the AppWeigh sensor.
- Remove the dust cap from the **AppWeigh sensor** first and store for future use. Then, hand tighten the AppWeigh sensor onto Load Sensing Valve (as shown in sample photo above).
- The **Load Sensing Valve** consists of 2x bolt holes for mounting to the vehicle's chassis.
- The long 90° arm of the **control rod assembly** must be fixed to the Load Sensing Valve swivel. The short 90° arm must be fixed to the axle of the vehicle (as shown in sample photo below).
- The valve OPENS anti-clockwise. In other words, as the load on the vehicle increases, the rod (from the axle) pushes UP and the valve turns ANTI-CLOCKWISE (opening the valve to increase the air pressure imposed on the sensor) and therefore reflecting as an increased weight on the AppWeigh app – see image below. Therefore, however you mount the valve, it's important to make sure that (a) the valve has free movement across the full extent of the rod movement (i.e. no load on vehicle and full load on vehicle – fully laden) and (b) the valve turns anti-clockwise when an increased load (air flow) is imposed



Side profile of Load Sensing Valve swivel showing a pressure increase (anti-clockwise) or decrease (clockwise)

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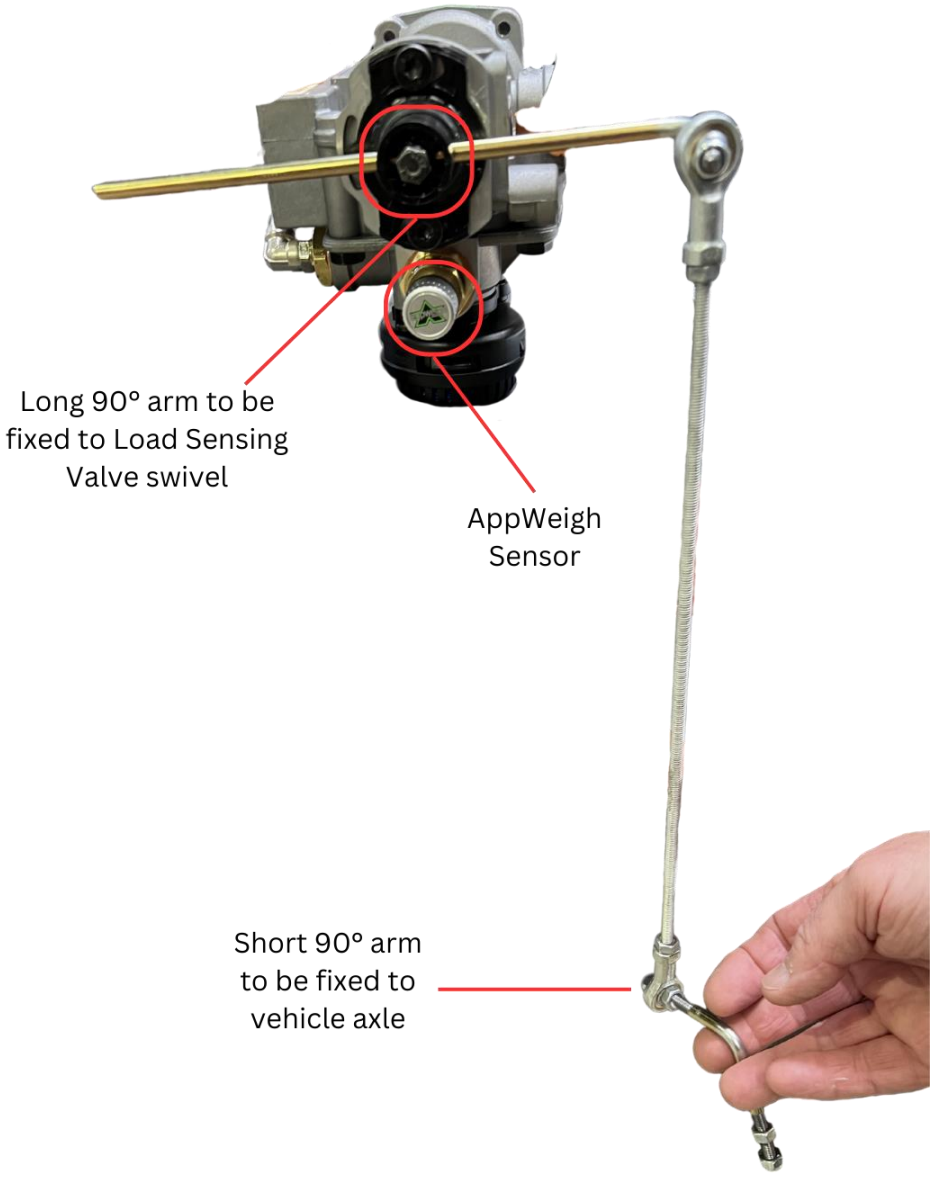

Complete Steel Suspension kit

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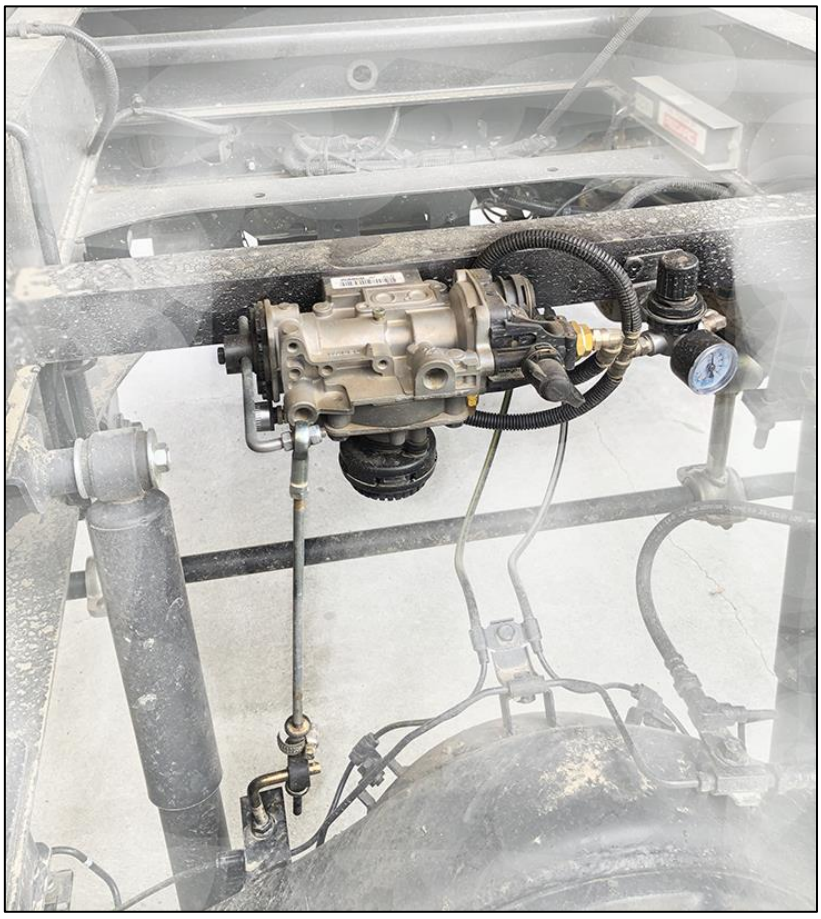
The following illustration shows a **completed installation** on a tipper. This serves as a graphic reference but each setup will be unique.



The AppWeigh Steel Suspension kit should now be fully installed/mounted onto the vehicle.

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2. Install and configure the AppWeigh app and sensor on your smartphone/tablet

2.1 Install the AppWeigh app, log into your account and specify the weight unit for the app

Important: Scan the QR Codes to see a demo of how to install the AppWeigh app and login. Alternatively, follow ALL steps in Section 2.1.

SCAN ME

>>App install - video link<<

SCAN ME

>>App login - video link<<

1. Download and install the **AppWeigh** app from Google Play Store for Android devices or Apple App Store for Apple devices.
2. Open the AppWeigh app on your device.
   - Allow the AppWeigh app to access to your device's location if prompted (you will only be asked this the first time the app is opened).
   - Allow the AppWeigh app to turn on Bluetooth on your device if prompted - if Bluetooth is off, you will be asked to turn it on each time the app is opened
3. Register new user or log into existing user account

   — Register a new user:

   Choose this option if you are installing the app for the first time. You can register a new user account by clicking "Create New Account"; you will then be prompted for additional information. Once completed, click "Sign Up".

   OR

   — Login with an existing **AppWeigh** username and password:

   If you already have a username and password, enter your credentials and click "Sign In".
4. Once successfully logged in, you will be presented with the AppWeigh Home screen.
5. From the main menu ( ), select Settings.
6. Under Convert Weight Unit, specify your unit of measure (kg vs lb). Then click Save.

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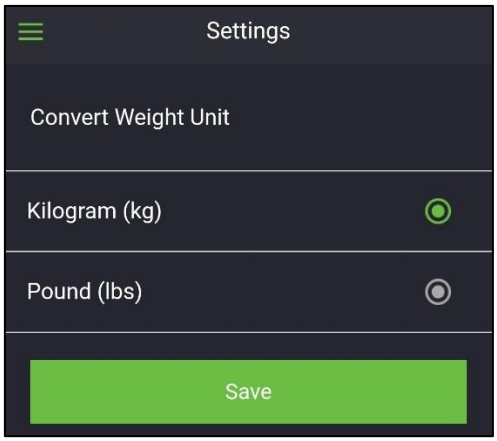

Specify Convert Weight Unit

PLEASE MAKE A RECORD OF YOUR LOGIN DETAILS and PASSWORD.

LOGIN:_____

PASSWORD:_____

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2.2 Create new Truck or Trailer profiles

Creating a truck or trailer profile allows you to provide details about your equipment and is required before pairing and installing the AppWeigh sensors. Once created, the truck and trailer profiles can easily be added or removed from the Home screen (see Section 1.4) giving you the ability to easily swap trucks or trailer combinations.

SCAN ME

Important: Scan the QR Code to see a demo of how to create new truck or trailer profiles. Alternatively, follow ALL steps in Section 2.2.

>>Create truck/trailer profile - video link<<

Create new Truck

1. From the main menu ( ), select "My Trucks."
2. From the "My Trucks" screen, select the **+** sign on the top right, and populate the form with the truck details.
   Note: The Axle Weight Limit values must be taken from the vehicle compliance plate (or Gross Vehicle Mass (GVM) plate) provided by the truck or trailer manufacturers.
3. Once complete, click "Done" (you can edit the profile anytime).

Create new Trailer

4. From the main menu ( ), select "My Trailers."
5. From the "Add Trailers" screen, select the **+** sign on the top right, and populate the form with the trailer details.
   Note: The Axle Weight Limit values must be taken from the vehicle compliance plate (or Gross Vehicle Mass (GVM) plate) provided by the truck or trailer manufacturers.
6. Once complete, click "Done" (you can edit the profile anytime).

Important: Multiple Truck / Trailer profiles can be added to a single AppWeigh account. Therefore, please ensure that each sensor name is adequately described to avoid confusion.

2.3 Pair AppWeigh sensor to app

This section describes how to connect (or pair) the AppWeigh sensor (hardware) with the AppWeigh app (software). It is very important that you keep track of which sensor was paired to which axle group in the app. We recommend you make note of which axle group and height control valve each sensor belongs to and unique pairing code in the ***Sensor Tracking*** step below, and then keep this paper with its sensor in the original box until the sensor is installed on the correct axle group.

SCAN ME

Important: Scan the QR Code to see a demo of how to pair the AppWeigh sensor to the app. Alternatively, follow ALL steps in Section 2.3

>>Pair sensor - video link<<

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Open the "Setup Sensors" screen for the Truck or Trailer

1. From the main menu ( ), select "My Trucks" or "My Trailers."
2. From the list, select the Truck or Trailer to edit by clicking the pencil icon next to the name.
3. From the Edit screen scroll down and click the "Setup Sensor" button.

Pair Sensor

4. Locate the AppWeigh Sensor. This sensor may already be screwed onto the Load Sensing Valve.

5. When you are ready to pair the sensor to the app, unscrew the sensor logo cap (by holding the base of the sensor and unscrewing the top) and remove the Battery Pull Tab.
   Note:
   - A 2032 (3v button-type) battery is included for shipping inside the sensor. Each sensor also includes a Battery Pull Tab to preserve the battery before use. This paper tab must first be removed to turn on the sensor.
   - If the Battery Pull Tab has already been removed (i.e. sensor is already on) **or** you are replacing an old battery, first remove the battery (before pairing) from the sensor for **at least 45 seconds**. After this, reinsert the battery (+ sign facing up) into the connector sleeve of the sensor.

Removing the battery from the connector sleeve

Once the tab is removed, the sensor will enter "Pair" mode **<u>for 2 minutes</u>**. Ensure steps 6, 7 and 8 are done within this time window.

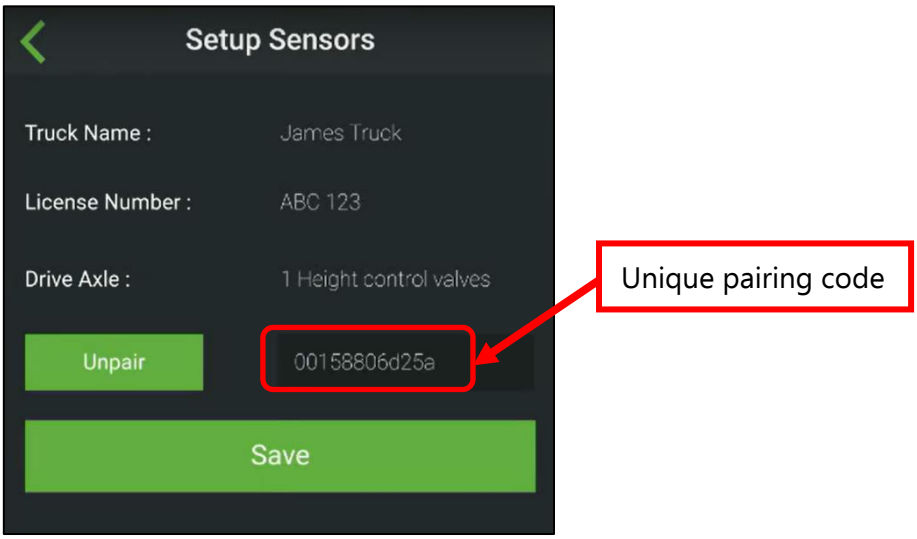
6. From the "Setup Sensors" screen, find the axle group you want to pair.
7. Hold the sensor up to the phone or tablet, and immediately click the "Pair" button. You will see a 20 seconds countdown while pairing.
8. When the sensor is successfully paired, you may be given the option to select "Normal" or "Fast" broadcast mode. Select according to your needs.

Note: In Fast mode, the update frequency from the sensor to the app is every ~2 seconds and the battery life is approximately 3 months. In Normal mode, the update frequency is ~15 seconds and the battery life is approximately 8-9 months.

Note: If you are using the latest AppWeigh sensor (pictured above) and app software, you will not be asked to specify the update frequency. Instead, the app will automatically adjust and update the current weight quicker on the app (Fast mode) when the vehicle is being loaded (e.g. grain) and slower (Normal mode) when the vehicle is not being loaded.

9. If pairing was successful, you will now see the unique pairing code in the box next to the "Unpair" button. Press the "Save" button, and use the sensor tracking section below for future reference when installing the sensor. *(If the pairing was unsuccessful, try again by removing the battery, waiting 45 seconds, and then repeating the Pair Sensor steps from the beginning. For further information, please see our support page at www.appweigh.com.au/support/sensor-faq.)*
10. **Sensor Tracking** (mark the following and keep these records with sensor until installed).

Unique pairing code:	*Alphanumeric code (see sample screenshot below)*
Circle Axle Group for this sensor:	Steer / Drive / Trailer # 1 / 2 / 3
If Dual Valves, circle:	Driver Side / Passenger Side



Sample "Setup Sensors" screen once sensor connects to AppWeigh app

11. Repeat the Pair Sensor section for each AppWeigh sensor, making sure to keep sensors separated and using the Sensor Tracking section for each sensor to keep track of which axle group the sensor was paired with.

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2.4 Add Equipment to Home screen

This section describes how to add your Truck and / or Trailer profile to the Home screen in the AppWeigh app.

Important:

- ✓ Before starting this section, the Truck or Trailer profiles must be completed and the sensor(s) paired to the axle group in the AppWeigh app.
- ✓ A truck / trailer profile **MUST** be added to the Home screen for it to display the live readings.
- ✓ Only 1 truck (up to 2 sensors) can be added to a user's Home screen (per device) at a time.
- ✓ Up to 6 sensors on the trailer combination can be added to a user's Home screen (per device) at a time.

Example AB Triple combination (truck with single leveling valve) showing that 6 sensors are required for this combination and all can be added to Home screen

Important: Scan the QR Code to see a demo of how to add a truck / trailer to the Home Screen. Alternatively, follow ALL steps in Section 2.4.

SCAN ME

>>Add equipment to Home screen - video link<<

1. Add Truck to Home screen
   - From the Home screen, click the "Add Truck" button.
   - From the "Select Truck" screen, select your Truck and click "Submit."
   - The Home screen will show the selected truck.
2. Add Trailer to Home screen
   - From the Home screen, click the "Add Trailer" button.
   - From the "Select Trailer" screen, select your Trailer and click "Submit."
   - The Home screen will show the selected trailer.
   - Repeat steps above for multi trailer combinations.

The installation and configuration of the AppWeigh app and linking of the sensor(s) to the app is now complete. You are ready to calibrate the AppWeigh system.

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3. Calibrate the AppWeigh system

*** The calibration process involves entering both empty (unladen) and loaded (laden) weights into the AppWeigh app.* ***ALL*** *weights entered into the AppWeigh app during* ***calibration MUST*** *be the actual measured weight of the axle group as obtained from a certified weight scale / weighbridge and* ***NOT*** *the weights on the vehicle compliance plate (or GVM plate) provided by the truck or trailer manufacturer. For trucks, an unloaded / unladen weight must include full fuel tanks and the driver sitting in the cabin (in other words, the only weight missing is the cargo load) ***

Important: The previous sections must have been **completed before** starting this section including:

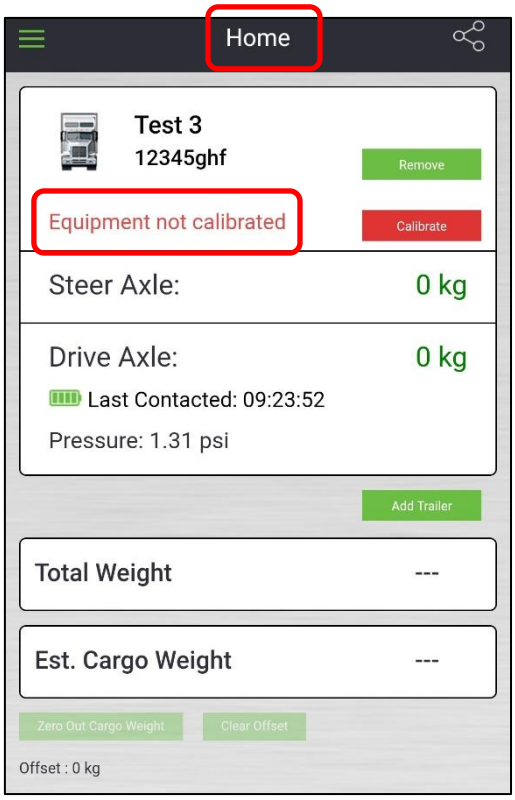
- ✓ All truck and / or trailer profiles need to be created in the AppWeigh app,
- ✓ All AppWeigh sensors need to be paired with an axle group in the AppWeigh app,
- ✓ The truck and/or trailers need to be added to the AppWeigh App Home screen, and
- ✓ All AppWeigh sensors installed on the correct axle group airline.

SCAN ME

Important: Scan the QR Code to see a demo of how to calibrate the sensor. Alternatively, follow ALL steps in Section 3.

>>Calibrate sensor - video link<<

1. Confirm Truck and/or Trailers have been added to the Home screen
2. While standing within range of the installed sensors, open the AppWeigh app
3. From the Home screen, confirm the "Last Contacted" timestamp is current (the timestamp is updated each time the app reads the sensor and can take up to 15 seconds to refresh).

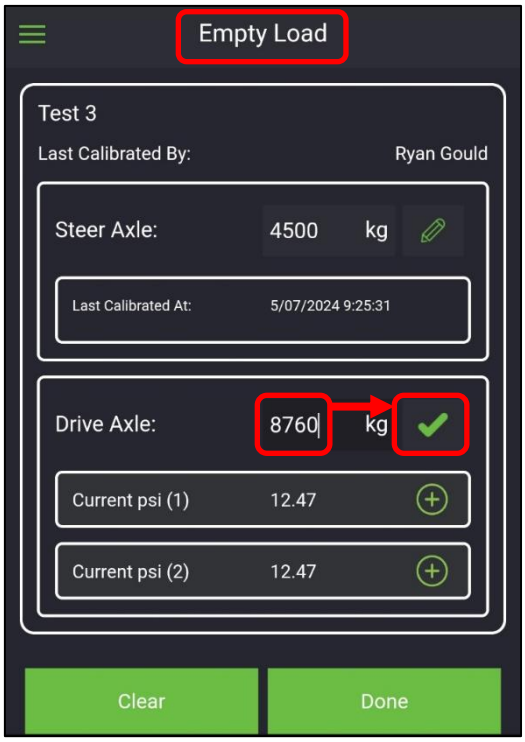


Sample Home screen showing newly added truck but equipment not calibrated

4. If the timestamp is not updating, try moving closer to the installed sensor. If you still have difficulty connecting, please see www.appweigh.com.au/support/sensor-faq for help.

Empty load

5. Obtain unloaded / unladen weights for each axle group from a certified scale.
6. While still empty, park the vehicle on level ground with engine running, wheels chocked, and brakes off. Let vehicle idle for at least 3 minutes to allow height control valves and sensors to stabilise before proceeding to the next step.
7. On the AppWeigh app main menu, select Calibrate -> Empty Load.
8. From the "Empty Load Calibrate" screen, enter the unloaded / unladen weight for each axle group (select the pencil icon to edit and the checkmark to save the weight).



9. After entering the weight for all axle groups, click Done. Then, open the main menu and select Home.
10. Verify the weight displayed for each axle group on the Home screen is the same as the weights just entered. Note: Due to sensor accuracy, the weight values can fluctuate slightly from the values just entered.

Full load

11. Load the Trailer(s) to near maximum legal load.
12. Obtain loaded / laden weights for each axle group from a certified scale.
13. While still loaded with the same weight, park the vehicle on level ground with motor running, brakes off and wheels chocked. Let vehicle idle for at least 3 minutes to allow height control valves and sensors to stabilise before proceeding to the next step.
14. On the AppWeigh app main menu, select Calibrate -> Full Load.
15. From the "Full Load Calibrate" screen, enter the loaded / laden weight for each axle group (select the pencil icon to edit and then checkmark to save the weight).

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16. After entering the weight for all axle groups, click Done.
17. Open the main menu and select Home.
18. Verify the weight displayed for each axle group on the Home screen is the same as the weights just entered.
    Note: Due to sensor accuracy, the weight values can fluctuate slightly from the values just entered.
19. The Calibration step is now complete.

Re-calibration: AppWeigh recommends that the user recalibrate each AppWeigh sensor across both trucks and trailers at least once per year or after any modification (incl. chassis) or replacement of suspension parts.

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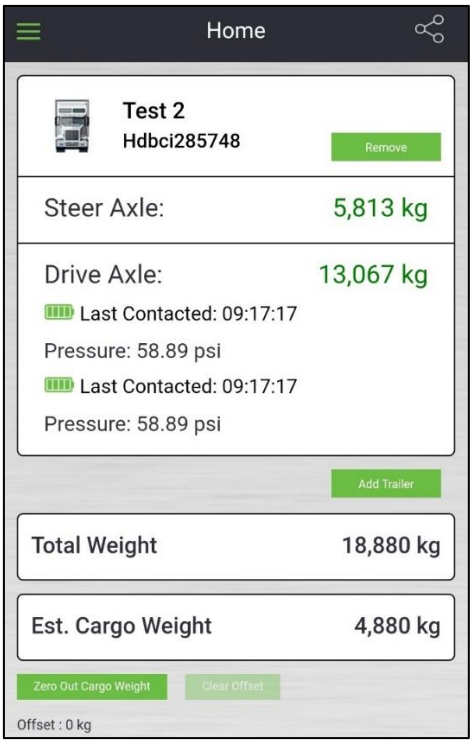

Sample Home screen showing a newly added truck with calibrated equipment

The AppWeigh Steel Suspension system should now be ready for use.

Please visit our website at www.appweigh.com.au for more information about the AppWeigh product.

Disclaimer: It remains solely the responsibility of the operator to ensure that the AppWeigh system is maintained, operated and calibrated correctly. AppWeigh will not be held liable for any inaccuracies resulting from installation, calibration, or data entry, which may lead to negative implications.

This weight scale system is intended to provide an indicative weight, and is not suitable to be used for any commercial sales applications or as a certified weighing device as outlined in the National Measurements Act.