

Air-Weigh Scales including a Deflection Sensor for the Steer Axle - Overview

Based in Eugene, Oregon, Air-Weigh is a privately owned company that provides on-board electronic scales for numerous vehicle types in the transportation industry. With Air-Weigh tractor and trailer scales, fleets are able to reduce operational costs while increasing overall efficiency. Air-Weigh vehicle scales are installed on tractors, trailers and trucks of various configurations worldwide. For more information, go to www.air-weigh.com.

The Air-Weigh scale for air-suspension vehicles is a true on-the-ground axle weight scale and is not affected by temperature, humidity or altitude. With an Air-Weigh scale, your drivers can accurately determine on-the-ground axle weights right at the loading site without having to depend on interpretation of an air gauge reading.

With electronic precision, Air-Weigh Air-Suspension Scales measure changes in air-suspension pressure to 1/27th of one PSI, or in increments of about 20 to 40 pounds of on-the-ground weight.

Providing scale products to the transportation industry for over 10 years, Air-Weigh's current scale offerings include the 5800 Series of Truck and Tractor Scales and the 5802 Series of Trailer Scales. **Recently, Air-Weigh has released a steer axle deflection sensor add-on feature for vehicles including straight trucks and for tractors that do not have an air suspension.** This document provides a short overview of the Air-Weigh Scales for those applications where the deflection sensor is used for determining the steer axle reading.

Air-Weigh 5800 Series of Truck/Tractor Scales with Deflection Sensor

Air-Weigh Truck Scales are an option for most truck models with air suspensions. The truck in-dash LCD gauge is mounted in a standard 2-inch hole and provides digital weights in 20 pound increments. When an Air-Weigh equipped tractor is connected to an Air-Weigh equipped trailer, the trailer axle weight is automatically transmitted to the truck scale and displayed on the in-dash gauge display.

The 5800 Series on-board scale converts tractor and trailer suspension loads to an accurate on-the-ground weight. By comparing empty and loaded axle group weights with empty and loaded suspension pressures, the scale can be calibrated to display accurate weights at any suspension load. The kit provides the standard in-dash Air-Weigh features and displays steer and drive weights, and also trailer weights with either an optional air line to the trailer suspension or a 5802 Series Trailer Scale. Gross Vehicle Weight and Net Payload are also displayed, by toggling the display.

All of the electronics are installed in the cab. The kit includes Air-Weigh's in-dash gauge, a ComLink Electronic Control Unit (ECU), one air pressure weight sensor and one deflection weight sensor.

For accurate weights, Air-Weigh recommends that the user:

- Calibrate the scale system with the tractor and trailer brakes released to release suspension binding. Calibrating or observing weight readings with the brakes engaged will result in inaccuracy.
- Perform calibration and weighing on a level surface with the vehicle adequately chocked to prevent rolling.
- When equipped with air-suspension dump valves, momentarily exhaust the suspension (5-10 seconds of air dump is normally sufficient) and re-inflated before calibrating or weighing. This will improve repeatability and accuracy.

In addition to the features noted above, the standard kit also includes alarms and warnings for all axle weights, GVW, and Net Payload, plus J1708 integration capability, a printer option, optional all-Spanish displays and more.



Some fleets use the alarm feature of the Air-Weigh scale to determine when the vehicle weight is approaching desirable limits. The alarm itself (whether a light or buzzer) is left to the choice of the user.

Previously, accurate steer axle weight was not available for straight trucks or for tractors where the drivers frequently made adjustments to the fifth wheel position. Now with the addition of a steer axle deflection sensor, steer axle weights are now available to the driver. The deflection sensor is mechanical and is not dependent on air pressure. It's mounted directly on the steer axle. As weight is added or removed from the axle, the deflection sensor will flex – with the amount of flex representative of the weight being added or removed. As with an air-suspension system, calibration is accomplished when the truck is fully loaded and when the truck is empty.

Most truck or tractor applications will include both air-pressure (including single and dual leveling valve configurations) for the drive axle and the deflection sensor for the steer axle. Sensor mounting for the steer axle includes bracket and adhesive and the kit includes a cover for the deflection sensor.



Air-Weigh Product Highlights

- Eliminates costs and delays caused by weighing at a truck stop scale
 - Scale fees and overweight fines
 - Lost Hours of Service time
 - Lost out-of-route miles and fuel
 - Missed delivery schedules due to overweight delays
- Accurate to within 300 lbs of a DOT certified scale for air-suspension scale kits
- Load it right the first time and head straight to the highway
- Hands-off operation after calibration
- Scale on just the truck can help legalize axle weights even if trailer is not scaled
- Tractor scale automatically communicates with Air-Weigh Trailer Scales, which are installed by over 80 trailer manufacturers
- When connected to an Air-Weigh equipped trailer, the trailer weight automatically shows on the in-cab display and is included in GVW and Net Payload weights

Air-Weigh Product Warranty for Truck Scales

- Three (3) year factory warranty for air-suspension scale kits; one year for deflection sensors
- Covers replacement or repair for failures due to workmanship or materials

Contact Information

On the Internet at	www.air-weigh.com
Air-Weigh Sales	1-888-459-3444
Air-Weigh Customer Service	1-888-459-3247 Monday thru Friday 8 am to 5 pm Pacific Time
Product Manager	Jim Morton, 704-876-1909 Office, 704-682-1217 Cell

AIR-WEIGH 5800 SERIES of SCALE PRODUCTS

<p>0A5807B1G4A0A0A</p>	<p>Truck Scale Kit, AW5800, Air Pressure Drive, Deflection Sensor Steer</p>	
<p>0A5800B1A0A0A0A Air-Weigh Tractor Scale Kit</p>	<p>Truck Scale Kit, AW5800, Air Pressure Drive, Calculated Steer, APP3</p>	
<p>050-5801-000</p>	<p>Truck Scale ComLink, AW5801</p>	
<p>050-5800-000</p>	<p>Truck Scale Display, AW5800</p>	
<p>2-5802-21JJAAA Air-Weigh Trailer Scale Kit</p>	<p>Trailer Scale Kit, AW5802</p>	

Appendix A

Air-Weigh 5802 Series of Trailer Scales

The 5802 Series Trailer Scale converts trailer air-suspension pressure to an accurate on-the-ground weight. By comparing empty and loaded weights with empty and loaded air-suspension pressures, the scale is able to determine accurate weights for any suspension load. The scale will display the actual on-ground weight of each *axle group* to within 300 pounds (140 kgs.) An axle group is defined by the Height Control Valves (HCV), or leveling valves, on the suspension. For instance, a tandem trailer axle suspension typically has only one HCV, so the two axles are referred to as a single *axle group* or channel number. Once calibrated, the LCD display shows the weight in 20 pound increments. When the scale is set for kilograms, the LCD display shows the weight in 20-kilogram increments. Additionally, any tractor equipped with an 5700/5800 Series scale will display 5802 trailer weight while that trailer is connected via the 7-wire coil cord (J-560 connector).

Each trailer scale kit consists of the trailer scale module, an air suspension weight sensor, sensor cable, and power cable. One Trailer Kit is installed on each trailer suspension in order to process weight data for each of the weight-supporting suspensions in the vehicle.

As with the 5800 Series of Tractor Scales, the 5802 Series also includes Alarm feature whereby an overweight condition can activate a light or horn when the trailer is overloaded or the slider or load is positioned wrong. **Calibration data for the most popular trailer suspensions is available within the scale, so calibration in most cases is as simple as selecting the suspension make and model from the set-up menu.**

