AIR-WEIGH
AIR AND MECHANICAL SUSPENSION SCALES

Installation Guide

For Trucks and Tractors

Walking Beam Hendrickson Drive Suspensions

Drive Brackets

Air-Weigh Customer Success: 888-459-3247

PN 901-0192-000 R0 **5/13/25**

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Please note: Every effort has been made to ensure that the information in this manual is accurate. Air-Weigh is not responsible for printing or clerical errors that occurred during time of publication.

About Installation

Overview

There are a few major components of a scale that you will install:

- Electronics: scale, power cables and sensor extension cables
- Deflection sensor for the steer axle (vocational vehicles only)
- Deflection sensors for the Hendrickson drive suspension
- Air-Weigh app installed on compatible smart device for viewing A/D readings.

Before calibrating, note that there is a required break-in period. First verify that your A/D readings are set in the required range.

See Setting the A/D Values for more information.

Note: The reusable Installation Jig (sold separately) is required for this installation.

Tools Required

You will need the following tools to install the deflection sensors on the steer and drive axles.

- Sander/grinder
- 40-grit medium sandpaper
- Chalk or permanent marker
- 22 MM combination wrench
- Torque wrench
- 22 MM socket
- Enamel spray paint, any color
- Welder, MIG or ARC
- E7018 welding electrodes for ARC welders
- E70S-3 or E71T-1 welding wire for MIG welders
- C-clamps
- Tape measure
- 111-0023 Installation Jig (sold separately)

Optional Tools

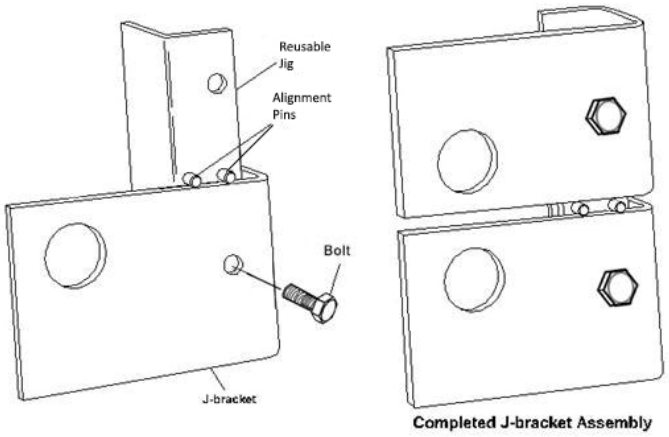
Deflection sensor test box (P/N 1001).

Installing the Drive Axle Bracket

Assembling the Bracket to the Jig

Note: You must make sure that the frame rail will not hit the top of the deflection sensor bracket when the suspension is at maximum weight. As an approximation, ensure that the travel between the frame stop and the suspension is at least a 1/2 inch more than the distance from the top of the bracket to the frame rail above it.

1. Place a flat washer on a cap screw and insert it through the J-bracket and then through the jig.
2. Place a second flat washer on the cap screw followed by a hex nut.



Assembling the J-Bracket to the Jig

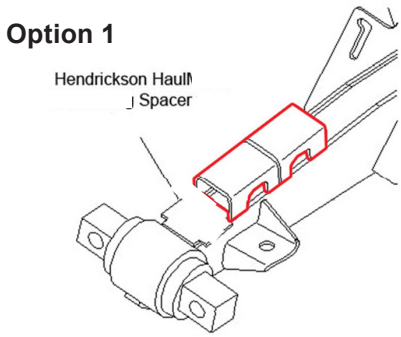
3. Make sure both alignment pins are touching the J-bracket.
4. Securely tighten the J-bracket to the jig assembly.
5. Repeat these steps using a second J-Bracket. Ensure all edges are parallel and at the same height.

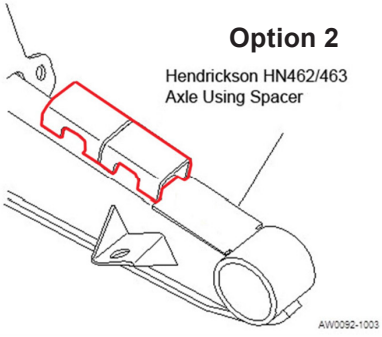
J-Bracket Placement and Surface Preparation

View three options below and on the next page.

1. Place the appropriate spacer (see Table below) against the bar pin end on either the front or the back of the equalizing beam. Put the J-bracket assembly against the spacer onto the equalizing beam.

Table: Spacer for Specific Suspension Type





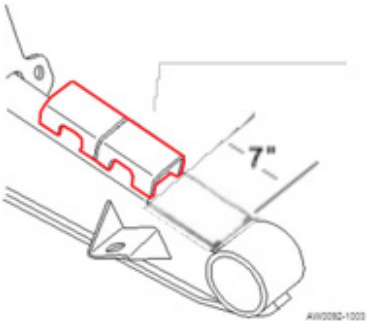
Hendrickson HAULMAXX HMX 400, HMX, HMX 460	Hendrickson HN462/463 HN 462, HN 402, HN FR, RT 463, RTE 463, HN 522
120-0079-XXX	120-0080-XXX

2. Hold the J-bracket assembly firmly on the suspension and mark the area inside the two large holes of each J-bracket.
3. Remove the J-bracket assembly and set it aside.
4. Using a sander or grinder with 40-grit sandpaper, clean a wide area around the marked areas until only bare metal is visible.
5. Repeat steps 1-4 on opposite side of the suspension so you have one bracket on the passenger's side and one on the driver's side of your suspension.

J-Bracket Placement and Surface Preparation

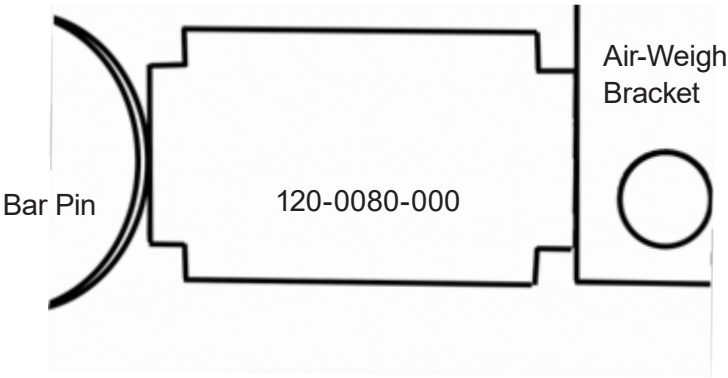
1. Place the J-bracket 7” (inches) from the bar pin on the equalizing beam.
2. Hold the J-bracket assembly firmly on the suspension and mark the area inside the two large holes of each J-bracket.

Option 3



Hendrickson HAULMAXX EX

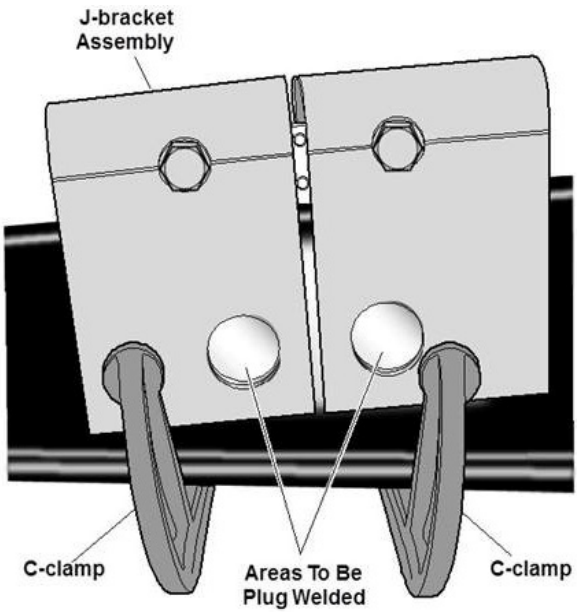
120-0080-XXX



3. Remove the J-bracket assembly and set it aside.
4. Using a sander or grinder with 40-grit sandpaper, clean a wide area around the marked areas until only bare metal is visible.
5. Repeat steps 1-4 on opposite side of the suspension so you have one bracket on the passenger’s side and one on the driver’s side of your suspension.

Welding the Bracket

1. Using the appropriate spacer, place the J-bracket assembly back on the walking beam.
2. Secure the bracket assembly to the drive axle with two C-clamps.
3. Using a MIG or ARC welder, tack-weld the two large holes (top, bottom, left, right).
4. Plug-weld the circumference of the two large holes in the brackets only.
5. Once the welds are completely cooled, remove the clamps.
6. Remove the screws, washers and nuts and the assembly jigs from the J-brackets.
7. Paint all welded and sanded areas using enamel spray paint to prevent oxidization, per instructions on page 10 for the steer axle.



Clamping the Bracket to the Suspension

Routing Cables

1. Route the 20’ steer extension cable and the 40’ drive extension cable(s) along their respective axles and the frame, and then through the cab firewall. Leave enough length for sensor connections. If at all possible, route along an existing wire harness. Be careful to avoid routing along pieces of the frame that may move or cause wiring to rub.
2. Secure the cables loosely to the suspension using zip ties.
3. Coil and secure any excess wire using zip ties.
4. Tighten all zip ties and trim them.
5. Reassemble the dash assembly after all sensors have been installed and sensor cables are connected. Ensure all connections are tight.

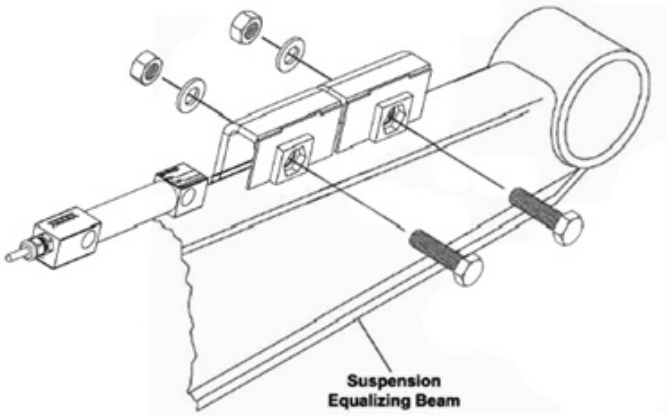
Note: Make sure there is enough slack in the sensor extension cable to allow for axle movement. Do not tighten or trim zip ties until the full installation is complete.

Note: When tightening the bolts, ALWAYS torque the nut, NOT the bolt head. The bolt head should be in the bolt head holder, which is built into the bracket.

Installing the Drive Axle Deflection Sensor

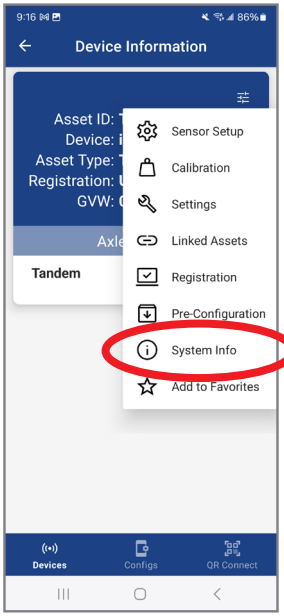
Once welding is complete, you can install the deflection sensor.

1. Clean the mounting surface for the deflection sensor and bracket. Ensure there is no paint where the sensor is to be installed.
2. Insert the deflection sensor into the bracket with the cable exiting toward the center of the beam. The engraved lettering should be facing up.
3. Place the bolts through the holes in the sensor bracket to secure the deflection sensor.
4. Place the washers on the two inch grade 10.9 bolts.
5. Place the two hex nuts on the bolts.
6. Hand-tighten each nut and bolt assembly.
7. Follow the A/D setting and adjusting steps 13 onwards.



Installing the Deflection Sensor

How to View Scale Diagnostics in App

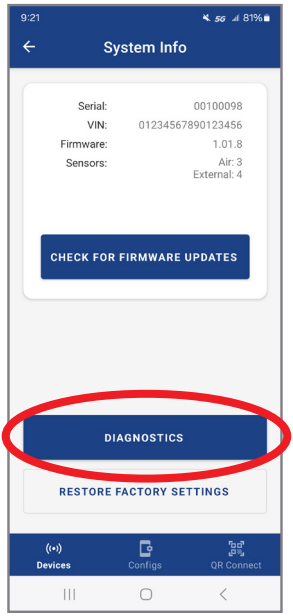


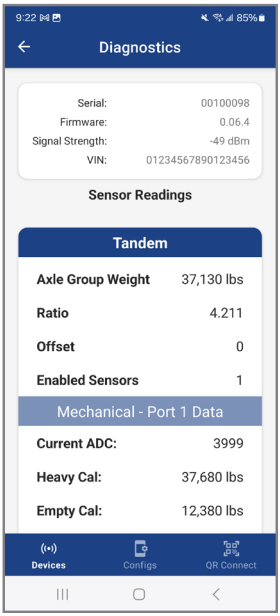
If the reading is within range (750-1250), continue to instructions for the **Final Sensor Torque.** If the reading is not within range, follow the instructions to adjust the A/D readings below.

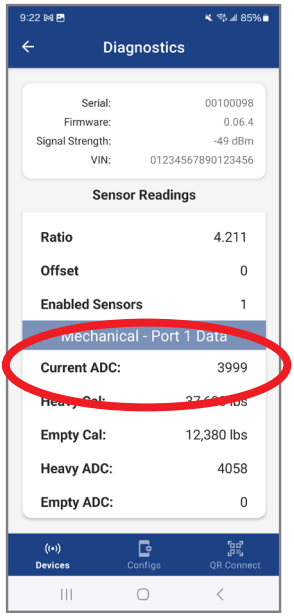
Open app, then select device from device dashboard. Open the main menu and select ‘System Info’ from the options.

On the ‘System Info’ screen, the serial number, VIN, Firmware version, and sensors are displayed. Select ‘Diagnostics’ to view scale diagnostics.

Live AD reading is ‘Current ADC’ field.







Adjusting the A/D Reading

If the A/D reading is above 1250, follow these instructions:

1. Loosen the nuts on both ends of the sensor.
2. At the plastic nut where the cable enters the sensor, exert **DOWNWARD** pressure with your fingers until the A/D reading is between 750 and 1250. Continue to apply pressure to maintain the desired A/D reading during the torque procedures in step 3.
3. Tighten the nut on the cable end of the sensor and torque to 60 ft/lbs. **Continue to apply pressure with your finger to the plastic nut during torquing in order to maintain the desired A/D reading.** If the A/D readings are still within the 750 to 1250 range after the nuts on both sides of the sensor have been torque to 60 ft/lbs, continue to instructions for the **Final Sensor Torque.**

If the A/D reading is below 750, or there is no A/D reading at all, follow the steps below:

1. Loosen the nuts on both ends of the sensor.
2. At the plastic nut where the cable enters the sensor, exert **UPWARD** pressure with your fingers until the A/D reading is between 750 and 1250. Continue to apply pressure to maintain the desired A/D reading during the torque procedures in step 3.
3. Tighten the nut on the cable end of the sensor and torqued to 60 ft/lbs. **Continue to apply pressure with your finger to the plastic nut during torquing in order to maintain the desired A/D reading.** If the A/D readings are still within the 750 to 1250 range after the nuts on both sides of the sensor have been torqued to 60 ft/lbs, continue to instructions for the **Final Sensor Torque.**

Final Sensor Torque

1. Torque both nuts to **120 ft/lbs**.
2. Perform a final check to A/D values using the readings from the app, not from the A/D Box. If A/D readings are not within range, repeat the **Adjusting the A/D reading steps.**

After the system is inspected, Calibrate your Scale per the related Calibration Guide.

The Deflection Sensor has a break-in Period to allow the sensor to adjust to the working environment and the use of the vehicle it is installed on.

We recommend having the Loaded Vehicle taken across the scale for a weight check-up after 100-800 miles. This mileage varies with the Use Case. If your vehicle is for severe duty and off-road, construction sites, etc., the break-in will be shorter. Conversely, if the vehicle is used in an over-the-road application, the break-in period will be slightly longer.

Compare the weight displayed by the system with the weight indicated on the ticket. If the displayed weight is within 3% of the value on the ticket, you are good to proceed.

If the weight falls outside this parameter, re-enter the Heavy Calibration and re-check the AD Values to ensure that they are within the Tension Parameters (750-1200). If they are not, re-tension the Sensor and restart the break-in period.

Additional Resources

Air-Weigh is proud to provide multiple online sources for installation guides, user guides, calibration guides, and videos for our products. Please scan the QR codes to visit our website for more detailed information.

Installation Guides

Calibration Guides

User Guides

Best Practices

Contact our Customer Success Department:

Monday through Friday,
8AM - 4PM Pacific, excluding holidays.

Phone:
1-888-459-3247

Email:
support@air-weigh.com

Website:
Live chat on www.air-weigh.com

Limited Warranty

Air-Weigh warrants (the “Limited Warranty”) that the Products will be free from defects in material and workmanship under normal use and service with proper maintenance for the following time periods:

(a) for new Scale kits, the Limited Warranty period will be 3 years;

(b) for new parts and accessories sold separately, the Limited Warranty period will be 1 year; and

(c) for repaired or refurbished items, including repaired or refurbished Scale kits and repaired or refurbished parts and accessories sold separately, the Limited Warranty period will be 90 days.

If any Product is determined to not conform to this Limited Warranty during its applicable Limited Warranty period, Air-Weigh will, at its exclusive option, either repair or replace the Product.

Limitations of Limited Warranty. Air-Weigh will have no obligation under the Limited Warranty with respect to any product if (a) Buyer fails to notify Air-Weigh in writing during the warranty period of a non-conformity, or (b) Buyer or any other person, entity, or governmental authority uses, misuses, or neglects the product in a manner inconsistent with the product’s specifications or directions for use or maintenance, modifies the product or improperly installs, handles, or maintains the product.

No Repair or Modification of the products. Except as explicitly authorized or in a separate written agreement with Air-Weigh, Buyer will not service, repair, modify, alter, replace, reverse engineer, or otherwise change any of the products.

Disclaimer of All Other Warranties. EXCEPT FOR THE LIMITED WARRANTIES SET OUT ABOVE, NEITHER AIR-WEIGH NOR ANY PERSON OR ENTITY ON AIR-WEIGH’S BEHALF HAS MADE OR MAKES FOR BUYER’S BENEFIT ANY EXPRESS OR IMPLIED REPRESENTATION OR WARRANTY WHATSOEVER, INCLUDING ANY WARRANTIES OF: (i) MERCHANTABILITY; (ii) FITNESS FOR A PARTICULAR PURPOSE; (iii) TITLE; OR (iv) NON-INFRINGEMENT; WHETHER ARISING BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. BUYER ACKNOWLEDGES THAT IT HAS NOT RELIED ON ANY OTHER REPRESENTATION OR WARRANTY MADE BY AIR-WEIGH, OR ANY OTHER PERSON OR ENTITY ON AIR-WEIGH’S BEHALF.

Limitation of Liability.

IN NO EVENT WILL AIR-WEIGH BE LIABLE FOR CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, PUNITIVE, OR ENHANCED DAMAGES, LOST PROFITS OR REVENUES, OR DIMINUTION IN VALUE, ARISING OUT OF OR RELATING TO ANY BREACH OF THESE TERMS, REGARDLESS OF WHETHER OR NOT THE DAMAGES WERE FORESEEABLE, WHETHER OR NOT AIR-WEIGH WAS ADVISED OF THE POSSIBILITY OF THE DAMAGES, OR THE LEGAL OR EQUITABLE THEORY (CONTRACT, TORT, OR OTHERWISE) ON WHICH THE CLAIM IS BASED.

IN NO CASE WILL AIR-WEIGH’S AGGREGATE LIABILITY ARISING OUT OF OR RELATED TO THESE TERMS, WHETHER ARISING OUT OF OR RELATED TO BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE), OR OTHERWISE, EXCEED THE TOTAL OF THE AMOUNTS PAID TO AIR-WEIGH FOR THE PRODUCTS.

THE FOREGOING LIMITATIONS APPLY EVEN IF BUYER’S REMEDIES UNDER THESE TERMS FAIL OF THEIR ESSENTIAL PURPOSE.

Procedure For Warranty Claims

ALL customers should first contact Air-Weigh Customer Success Department at (888) 459-3247 for questions regarding the use, operation, repair or return of any Air-Weigh product.

In the event Air-Weigh requests to examine the product prior to disposition OR for repair or replacement, Air-Weigh requires a Return Material Authorization (RMA) number be issued before the item is returned. Customer Success will issue the RMA number. Please reference this RMA number in all correspondence.

Claimed items shall be shipped freight pre-paid to:
Air-Weigh
Customer Success Department
1720 Willow Creek Circle, Suite 510
Eugene, Oregon 97402, USA

The Air-Weigh RMA number **must** appear on the outside of the return packaging. Air-Weigh shall examine returned material within 30 days after receipt, or sooner if mutually agreed upon. If Air-Weigh determines that the part or assembly was defective in material or workmanship and within the warranty period, Air-Weigh will repair or replace the part or assembly and return freight pre-paid. In the event Air-Weigh determines that the part or assembly cannot be repaired or replaced and is within the warranty period, a credit not to exceed the purchase price will be issued to the Air-Weigh customer.

For our customers using purchase orders Air-Weigh will process a credit memo and notify the customer by email or fax. The customer will process a corresponding debit memo and notify Air-Weigh accordingly.

If the part or assembly received by Air-Weigh does not meet the requirements of the warranty program set forth above, at the Air-Weigh customer's request the part or assembly will either be discarded, returned freight collect, or repaired or replaced at the Air-Weigh customer's expense and returned freight collect.

AIR-WEIGH

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