PN:901-0146-003 R0

Deflection Sensor
Installation Guide
for welded steer axles

Air-Weigh Customer Support: 888-459-3247

Steer Axle Deflection Sensors

See the manuals included with your kit for complete scale installation, calibration and operation instructions. You will need to have your QuickLoad or LoadMaxx display installed or a deflection sensor test box to complete this installation.

See the User Guide to calibrate your scale after installation!

Tools Required

- Grinder
- Chalk or permanent marker
- MIG or ARC welder
- Torque wrench
- 22mm socket
- Enamel spray paint, any color
- Tape measure

Optional Tools

- Deflection sensor test box, p/n 1001

Air-Weigh takes no responsibility for damage or failure of the steer axle due to improper welding or failure to follow these instructions.

Installing the Sensor Bracket

Assembling the Bracket Assembly

1. Remove the foam between the two halves of the bracket.
2. Ensure the pads are aligned and straight.
3. Tighten the bolts so that the bracket does not move with alignment tool still in the bracket.

Preparing the Steer Axle Sensor Brackets

1. Locate and mark the center of the steer axle.
2. Using a grinder, clean an area large enough to accomodate the bracket with no paint left under the pads. If the bracket rocks in any direction grind off any extra axle material.
3. Re-mark the center of the steer axle.

Welding the Bracket

1. Place the bracket assembly at the center of the axle. Use a clamp to hold the bracket in place. Make sure you leave the alignment tool in the bracket assembly while welding.
2. Tack weld each pad.
3. Fillet weld a full bead on the front and back edges of each bracket pad, only the edges indicated in figure 1.

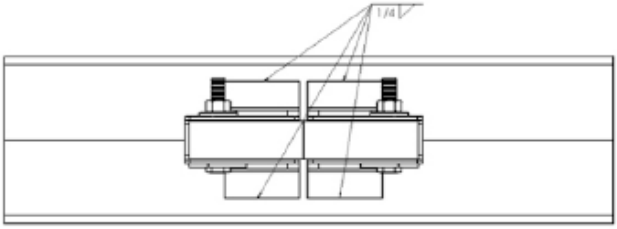

Fig. 1 Welded axle and bracket

NOTE: Do not operate the vehicle while the alignment tool is still in place.

Adding a Protective Spray Paint Coating

1. Using any enamel-based spray paint, paint around the base of the bracket and over the welded sections. Paint all bare metal around the bracket completely.

Installing and Adjusting the Steer Axle Sensor

1. Remove the alignment tool from the brackets. The two bolts, nuts and washers will be used to install the deflection sensor.
2. Insert the steer axle sensor with its cable extending toward the side of the vehicle where the sensor extension cable has been routed to the firewall.
3. Insert both bolts through the bracket hole with the keeper. Apply Loctite to the threads. Place a washer and a nut at the end of the bolt and hand-tighten the nut.

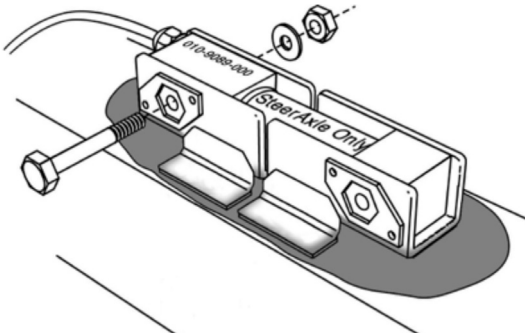

Fig. 2 Inserting the sensor into the welded bracket.

Setting the A/D Values

1. To assemble the connectors, insert the deflection sensor connector plug into the sensor extension cable connector OR connect to the deflection sensor test box. Ensure the locking tabs on the connector plug engage completely.
2. Tighten both nuts and torque to 60 ft-lbs.
3. Verify the A/D reading using the display in the cab or the deflection sensor test box. If the reading is within range (750 to 1250), continue to instructions for the final sensor torque. If the reading is not within range, follow the next instructions.

A/D Reading is BELOW 750

1. If the A/D reading is below 750 or there is no A/D reading at all, follow the steps below.
2. Loosen the nut on the non-cable end of the sensor.
3. Exert upward pressure lightly with your fingers under the non-cable end of the sensor until the A/D reading is between 750 and 1250.
4. Tighten the nut on the non-cable end of sensor and torque to 60 ft-lbs. If the A/D readings are still within proper range, continue to instructions for the final sensor torque.

A/D Reading is ABOVE 1250

If the A/D reading is above 1250, follow the steps below.

1. Loosen the nut on the non-cable end of the sensor.
2. Exert downward pressure lightly with your fingers on the non-cable end of the sensor until the A/D reading is between 750 and 1250.
3. Tighten nut and torque to 60 ft-lbs. If the A/D reading is still in range, proceed to instructions for the final sensor torque.

Final Sensor Torque

1. Tighten both bolts to 120 ft-lbs.
2. Perform a final check of A/D values. If not within range, repeat the steps for altering A/D readings.
3. If you are using the deflection sensor test box to set A/D values, disconnect the box and connect the deflection sensor cable to the sensor extension cable.

Steer Axle Finishing Touches

NOTE: Make sure there is enough slack in the sensor extension cable to allow for axle movement.

1. Mount the cover over the sensor and the sensor brackets so that the sensor cable is completely under the cover. The sensor extension cable should emerge from the cover's end port on whichever side you choose to route the cable.
2. Very loosely install band clamps around the steer axle on both ends of the deflection sensor cover. Ensure that the band clamp on each side is tightened and secured over both the steer axle and the cover flange.
3. Secure the sensor cable to the axle. Run the steer sensor extension cable along the rear of the axle toward the side of the truck (driver's side or passenger's side), securing with a band clamp. Place split loom over the band clamp where it crosses over the cable. Secure the cable to the band clamp with zip ties. Use additional zip ties as required to secure the cable to the steer axle.

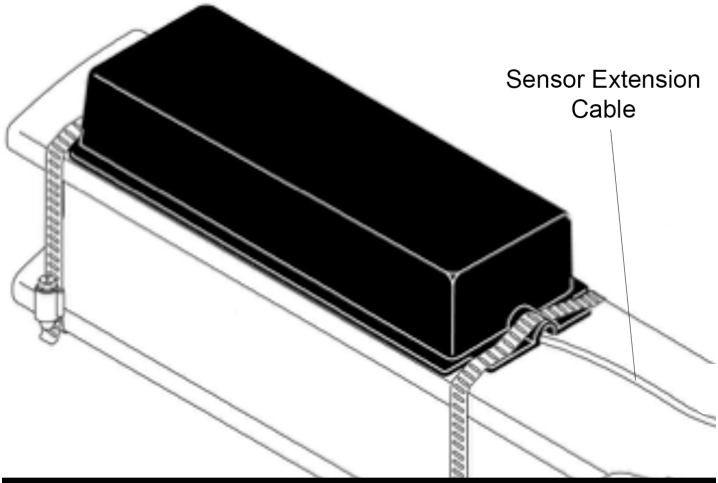

Fig. 3 Adding the sensor cover and band clamps.

Limited Warranty

For product failures due to material or manufacturing defects, Air-Weigh will replace or repair all components for up to three years from shipment date to the end-user Air-Weigh customer. These three-year components include: displays, ComLinks, air sensors, power cables, sensor assemblies, sensor harnesses, and all other associated external components. Air-Weigh assumes no responsibility for administering warranty claims directly with any third-party end users.

The responsibility of Air-Weigh under this warranty is limited to the repair, replacement, or credit of the defective part or assembly.

This warranty does not cover incidental or consequential damage to persons or property caused by use, abuse, misuse, or failure to comply with installation or operating instructions. This limited warranty does not apply to any product that has failed due to accident, abuse, alteration, installation not consistent with printed installation instructions, improper maintenance, or improper operation or as a result of system integration or installation not explicitly approved in writing by Air-Weigh.

Air-Weigh and its resellers shall have no responsibility or liability for damages if the purchaser or any other person alters the vehicle incorporating Air-Weigh products. This limited warranty shall not apply to any product that has been repaired or altered by anyone not employed by Air-Weigh or not operated in accordance with the manufacturer's printed material delivered with this product.

Air-Weigh hereby expressly disclaims any and all implied warranties of any type, kind, or nature whatsoever, and particularly any implied warranty of merchantability or fitness for a particular purpose not expressly stated by Air-Weigh in its printed material delivered with its products. Some states do not allow the exclusion or limitation of incidental or consequential damages. If such laws apply, the limitations or exclusions contained in the terms and conditions of this warranty may not apply. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

Procedure For Warranty Claims

ALL customers should first contact Air-Weigh Customer Support 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 Support will issue the RMA number. Please reference this RMA number in all correspondence.

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®

1730 Willow Creek Circle • Eugene, OR 97402-9152 USA
P.O. Box 24308 • Eugene, OR 97402-0437 USA

Telephone (541) 343-7884 • Order Desk (888) 459-3444
Customer Support (888) 459-3247 • Fax (541) 431-3121

www.Air-Weigh.com