

# INSTALLATION OF VULCAN DEFLECTION SENSORS ON HENDRICKSON 462/463 EQUALIZING SUSPENSION BEAMS FOR VACTOR MANUFACTURING

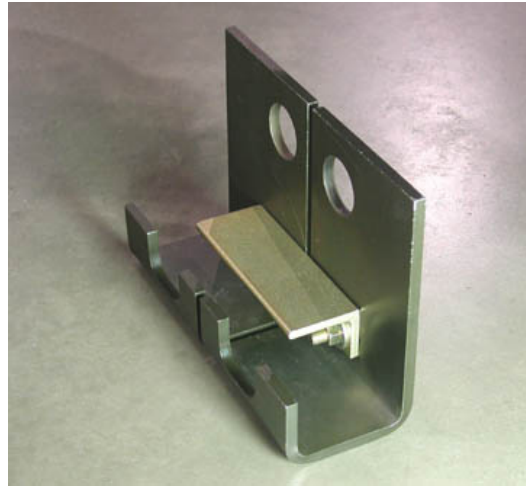
## General Notes:

1. Welding and mounting should be done with an empty truck.
2. The J brackets are designed to be plug welded to the suspension beam using the two large holes in the brackets. **Do not weld anywhere else on the beam.**
3. For the best scale system accuracy, one sensor should be mounted on the **forward** arm of one suspension beam. The other sensor should be mounted on the **rear** arm on the opposite beam.
4. After plug welding the J brackets to the suspension beam:
  - a. Allow the brackets to cool naturally before removing clamps.
  - b. Do not move the truck until the brackets have cooled.

## Installation

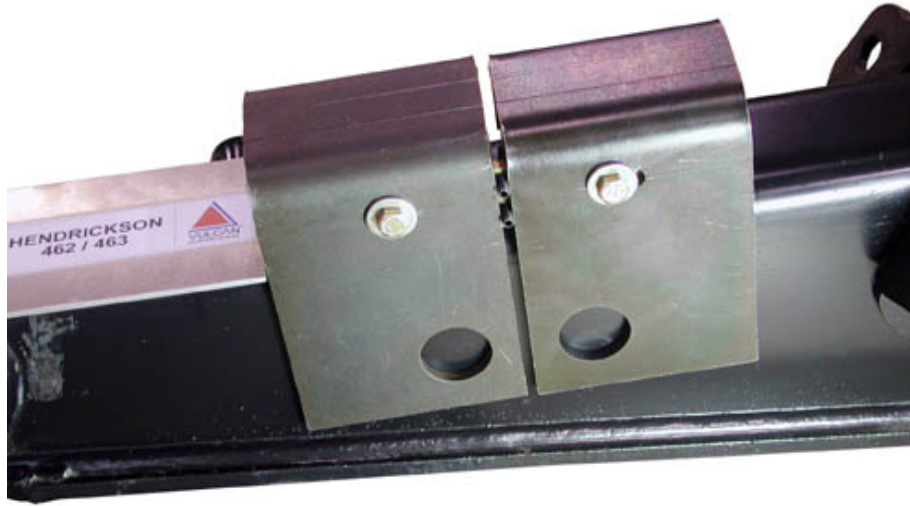
1. Mount the J brackets (one with the hole, one with the slot) to the installation tool as shown. The plug weld holes must be towards each other. Make sure the brackets are touching both set screws and that the edges are parallel and at the same height. When properly positioned, tighten the assembly to hold the two brackets in alignment when positioning them on the suspension beam.





2. Position the J brackets on top of the suspension beam. The plug weld holes go on the outboard side of the beam. Using the Hendrickson 462/463 template, slide the bracket assembly into position as shown. Mark the location of the two plug weld holes on the suspension beam and remove the bracket assembly.

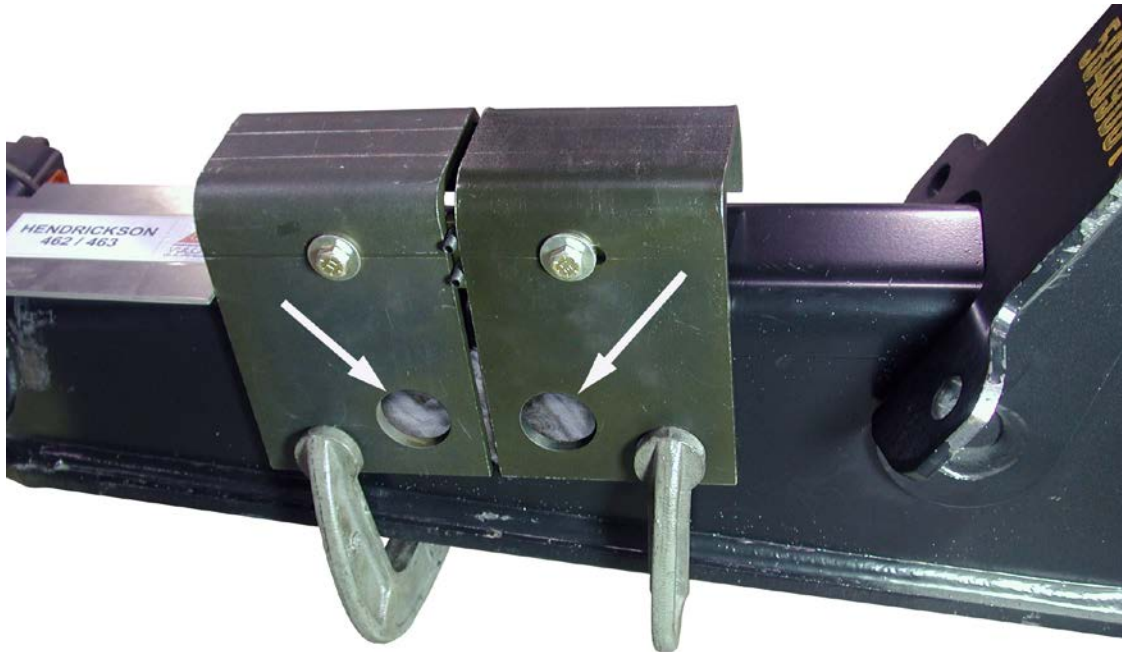




3. Prep weld area by cleaning and grinding to bare metal



4. Reposition bracket assembly on beam using the Hendrickson 462/463 template again. Clamp in place. Attach the brackets to the beam by plug welding the diameter of the two large holes. **Do not weld anywhere else on the beam.** Allow to cool naturally before removing clamps and angle fixture.



When the brackets have cooled, remove the clamps and angle fixture. The suspension beam is now ready for installation of the deflection sensor.

5. Installing the deflection sensor
  - a. Clean and degrease the mounting surfaces on the sensor and brackets. Make sure there is no paint between the mounting surfaces. It is important to have clean, metal to metal, contact.
  - b. Position both sensors (one on each side of the truck) under the J brackets with the **serial number facing up** and the cable exiting towards the center of the beam. Do not insert the fasteners at this time.
  - c. Connect both sensors to the scale system and note the output from the unmounted sensors. After installation, the sensors should have the same or slightly greater output. This output will change if the sensors are preloaded in the installation process. Too high of a preload could end up over ranging the electronics during normal operation.
  - d. Attach **one** sensor to the brackets using the 2 ¼" long Grade 8 screws. Use a heavy washer under the screw head and the hi-nut. Screws should be inserted

- from the inside with the hi-nuts on the outboard side. **Check that the serial number on the sensor is facing up** to make sure the sensor goes in the right direction when load is applied to the truck. Hand-tighten the mounting fasteners.
- e. Torque both nuts to 25 ft-lb. Torque the nut opposite the cable end of the sensor first. When tightening, hold the screw head and turn only the hi-nut.
  - f. Check the output from the sensors to see if it is similar to what it was before installing the fasteners. The output should be the same as, or slightly greater (within +0.2 volts) of the original reading.
  - g. To adjust sensor output – loosen the fastener opposite the cable end of the sensor and gently move the sensor end up or down before retightening the nut to 25 ft-lb.
  - h. Once the sensor is within the output range with 25 ft-lb of torque, torque the hi-nuts to 50 ft-lb. Torque the nut opposite the cable end first. Hold the screw head and only turn the nut.
  - i. Repeat the process, steps d through h, for the other sensor. When adjusting its torque, the system output should not be less than what it was in step h. It can be up to +0.2 volts higher. This guarantees that both sensors have no preload or a slightly positive preload.
  - j. Installation of the sensors is now complete and the plug welded area can be painted to protect against corrosion.

