

# Technical Bulletin

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**Bulletin Number:** TB-2016040-RH01

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**Summary:** This technical bulletin provides detailed instructions for the mounting and alignment of the 2100-596 Double Gating Transducer Assembly.

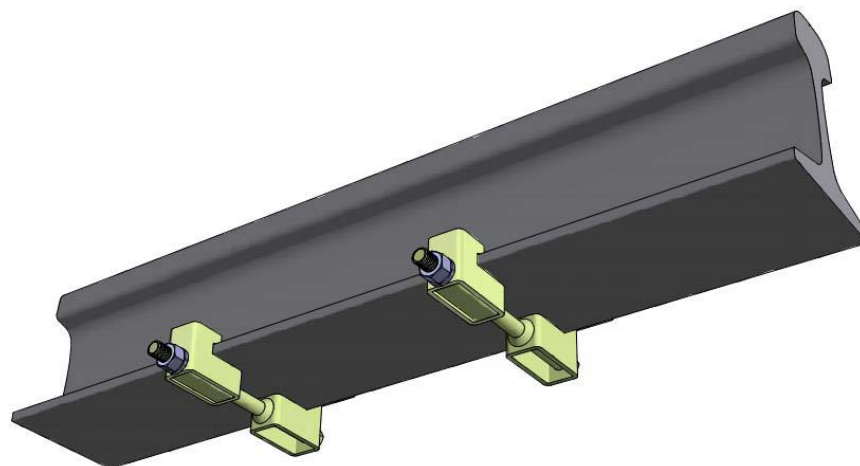
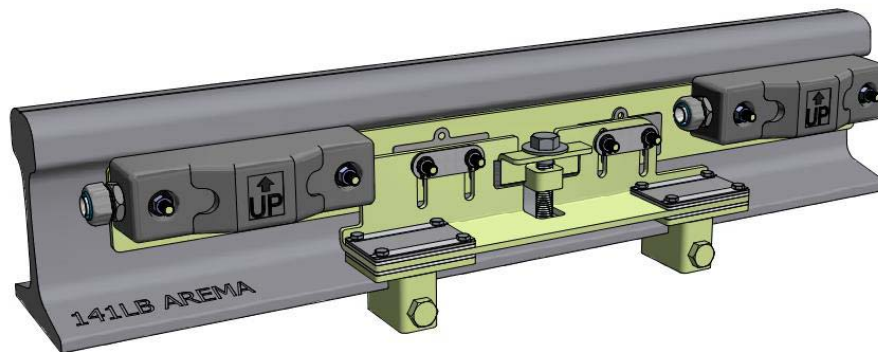
☐ **Critical (Affects safe operation of system)**

☒ **Informational**

**Distribution List:** NA

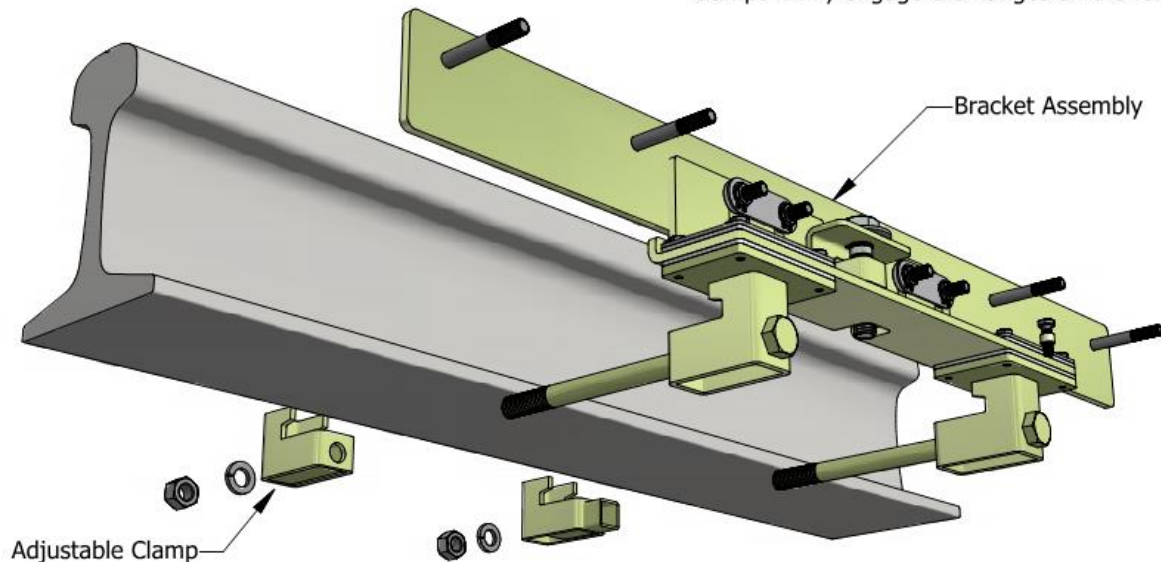
1) Gather tools as required.

- 9/16" Socket
- 11/16" Socket
- 1-1/16" Socket
- 3/8" or 1/2" Socket Drive Wrench
- 3/8" or 1/2" Socket Drive Torque Wrench
- 3/8" or 1/2" Socket Drive Adapters and Extensions

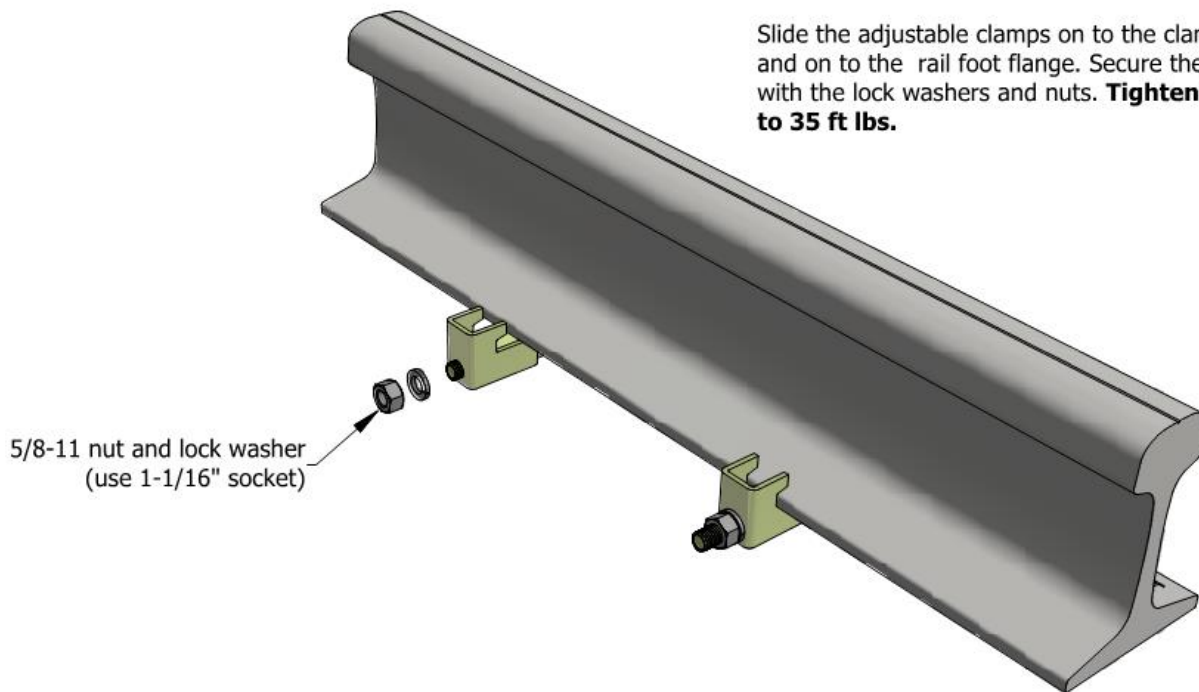


2) Loosely mount the clamp bracket against the gauge side of the rail.

Remove the adjustable track clamps nuts and washers from the bracket assembly. Mount the bracket assembly on the rail so that the slots in the clamps firmly engage the flanges on the rail foot.



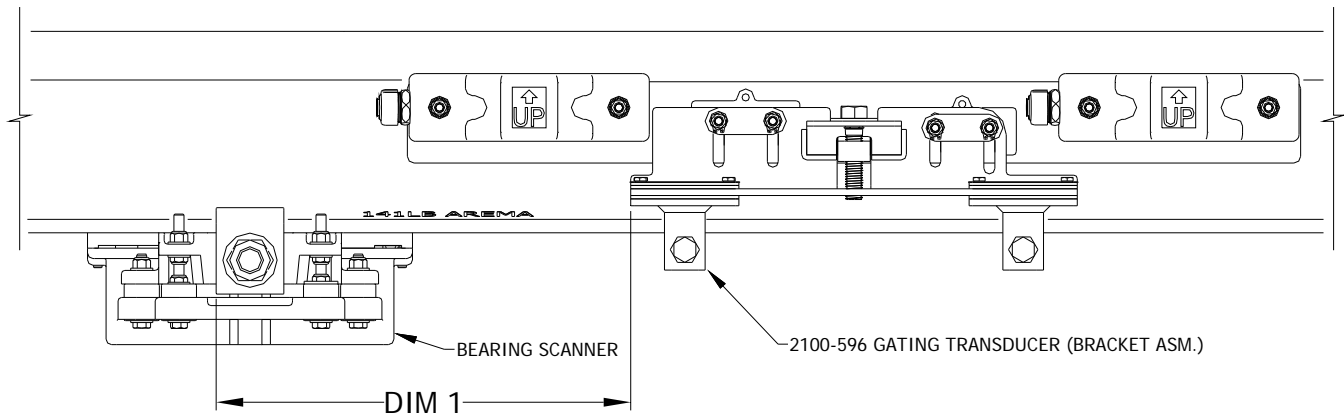
Slide the adjustable clamps on to the clamp bolts and on to the rail foot flange. Secure the clamps with the lock washers and nuts. **Tighten the nuts to 35 ft lbs.**



**NOTE:**

The hole on top of the bearing scanner cover faces the direction of scan (normally north or east). The gating transducers are mounted on the same side as where the bearing scanner is "looking."

- 3) For optimum performance, the gating transducers must be precisely positioned in relation to the bearing scanner. Per illustration below, slide the bracket horizontally as necessary to achieve the correct DIM1 for your rail size. DIM1 is the distance from the far edge of the track clamp of the bearing scanner to the near edge of the transducer bracket assembly. Tighten the nuts to 35 ft lbs.



**Using the tables below, note the distance (DIM1) for your rail size.**

When using with **type2** bearing scanners:

Rail Size pounds/yd	Rail Size kilograms/meter	Distance (DIM1)
115	57.05	16-5/8 inches (42.23 centimeters)
122	60.52	16-13/16 inches (42.70 centimeters)
127	63.00	17 inches (43.18 centimeters)
132	65.48	17-1/8 inches (43.50 centimeters)
136	67.46	17-5/16 inches (43.97 centimeters)
141	69.94	17-7/16 inches (44.29 centimeters)

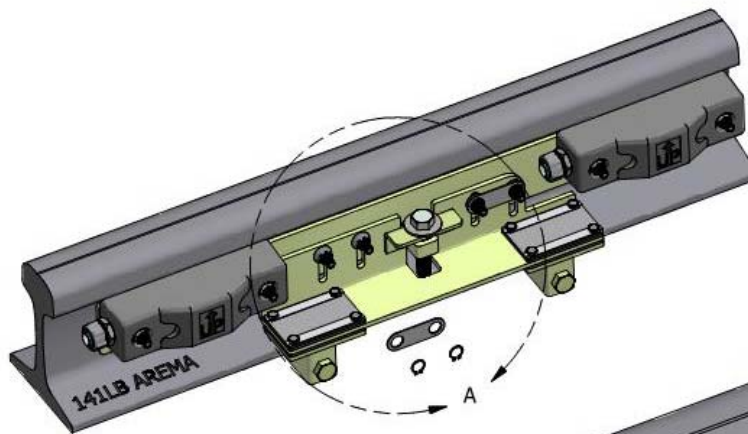
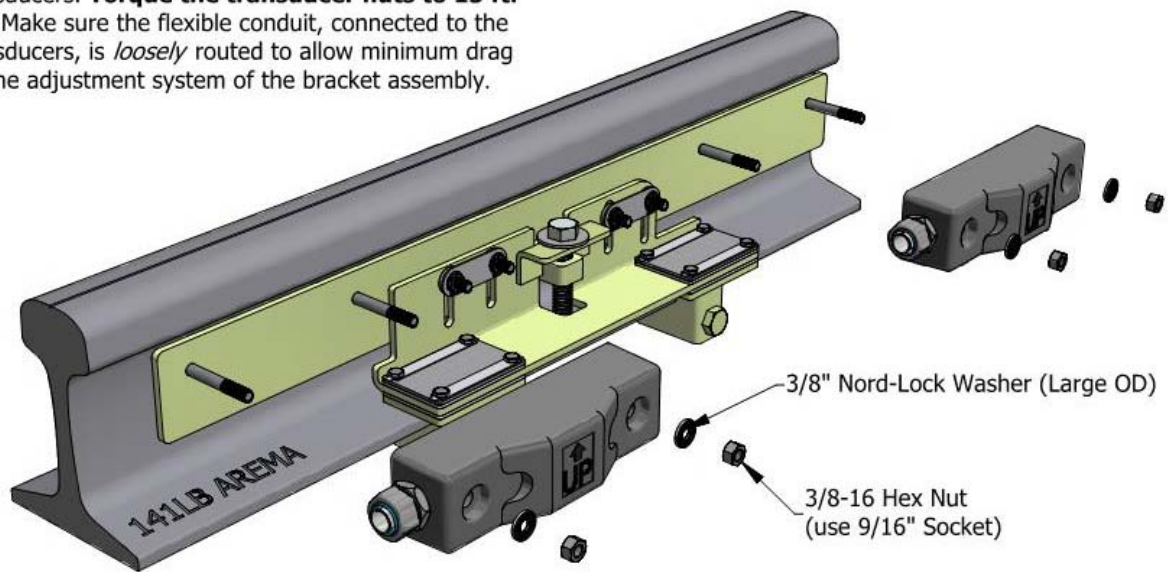
For example, if your rail size is 132 pounds per yard (65.48 kilograms per meter), the distance is 17-1/8 inches (43.50 centimeters). This distance is **DIM1**.

When using with **type3** bearing scanners:

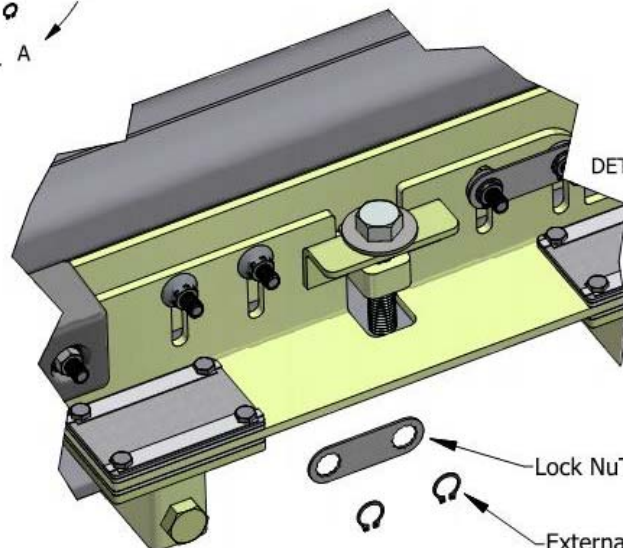
Rail Size pounds/yd	Rail Size kilograms/meter	Distance (DIM1)
115	57.05	14-1/2 inches (36.83 centimeters)
122	60.52	14-11/16 inches (37.31 centimeters)
127	63.00	14-7/8 inches (37.78 centimeters)
132	65.48	15 inches (38.10 centimeters)
136	67.46	15-3/16 inches (38.58 centimeters)
141	69.94	15-5/16 inches (40.48 centimeters)

For example, if your rail size is 132 pounds per yard (65.48 kilograms per meter), the distance is 15 inches (38.10 centimeters). This distance is **DIM1**.

- 4) If the transducers are not installed, mount both (STC) transducers. **Torque the transducer nuts to 15 ft. lbs.** Make sure the flexible conduit, connected to the transducers, is *loosely* routed to allow minimum drag on the adjustment system of the bracket assembly.



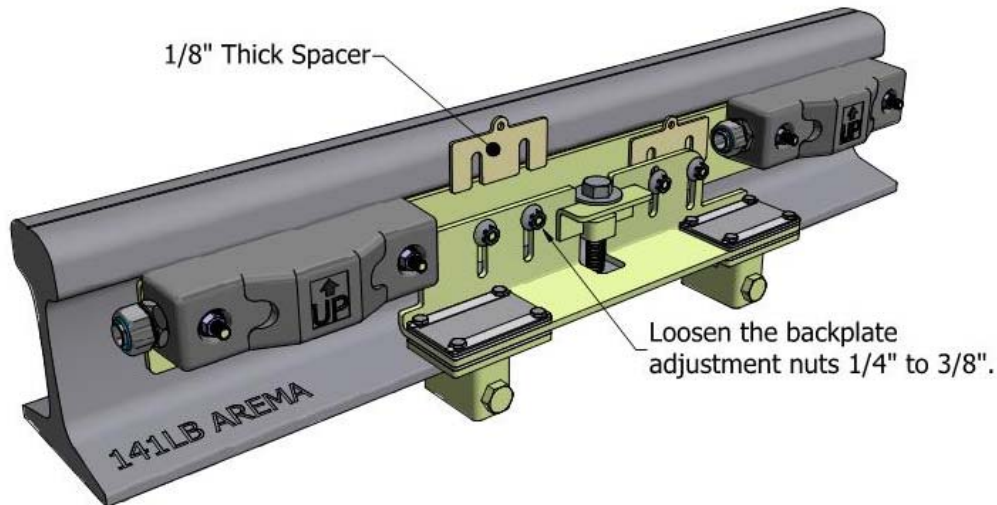
The Dual Transducer Bracket comes from the manufacturer with the backplate adjusted to it's lowest position. The backplate adjustment nuts are tightened just enough to prevent movement of the backplate during shipping.



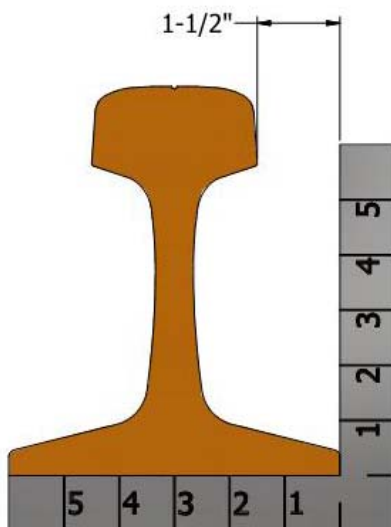
Remove the external retaining rings from all four Backplate Adjustment Nuts. Remove both Nut Lock Plates. Loosen all of the Backplate Adjustment Nuts about two turns.



5) Measure the rail dimension as depicted below. Add spacer plates if required.



Insert one (or more) spacers between the Back Plate and the Back Plate Mounting Bracket and over the left and right pair of nut studs. *(note: There should be the same number of spacers installed on each pair of studs not to exceed 3 spacer each.)*



1. If the measured distance is less than 1-1/2", spacers should not be required.

2. If the measured distance is 1-1/2" or more, a spacer per every 1/8" over 1-1/2" should be required. *(not to exceed 3 spacers per side)*

2066-000 Scanner Alignment Fixture

Place an STC Transducer Height Gauge on the rail over either Transducer.

Height Gauge Angle

Backplate Adjustment Screw (use 15/16" socket)

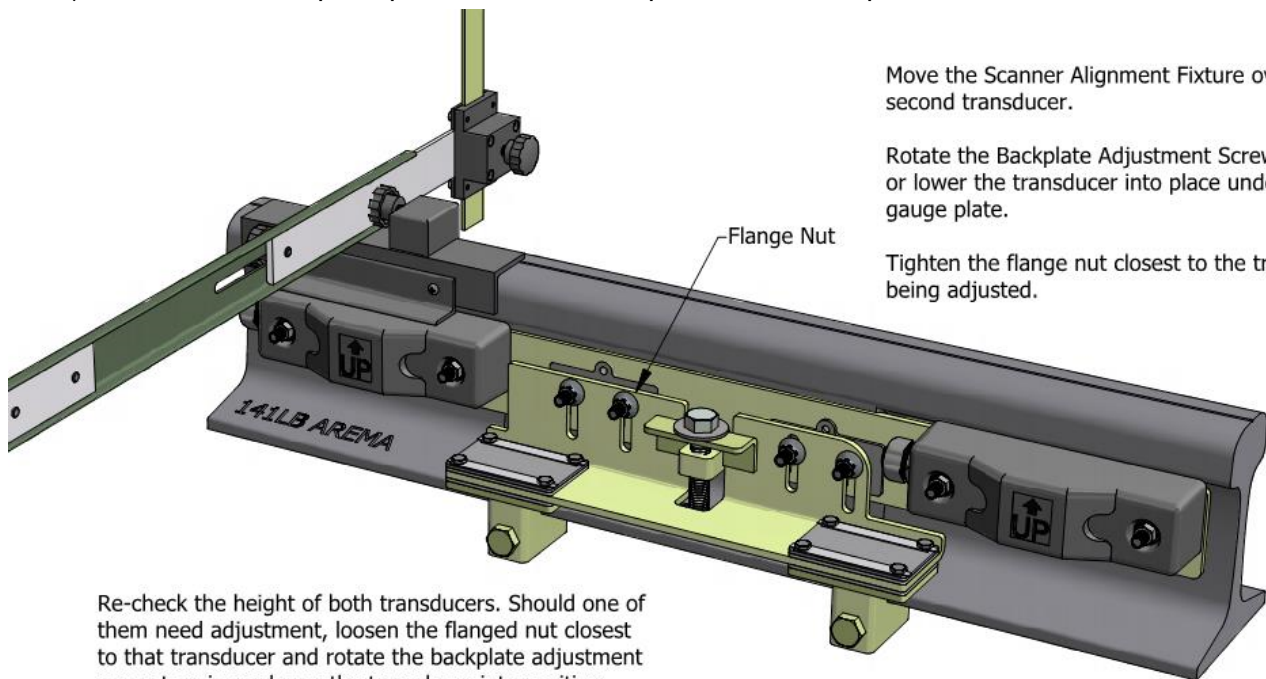
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Rotate the Backplate Adjustment Screw **clockwise** until the transducer is seated under the height gauge plate and both transducers are **relatively level** with the rail.

Tighten the flange nut closest to the transducer being adjusted.

Flange Nut (use 9/16" socket)

7) Perform final steps depicted below to complete installation procedure.

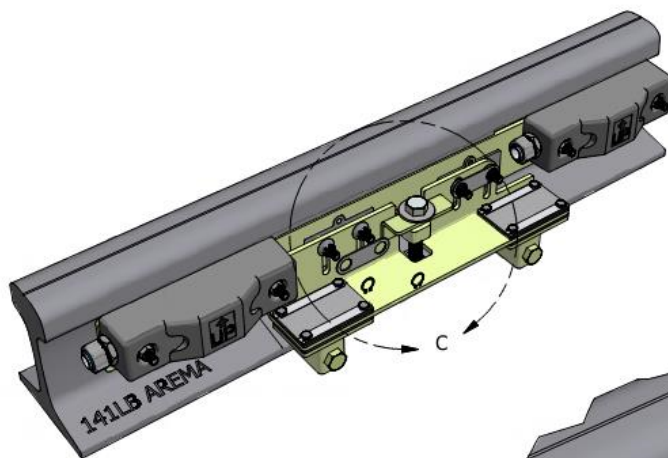


Move the Scanner Alignment Fixture over the second transducer.

Rotate the Backplate Adjustment Screw to raise or lower the transducer into place under the gauge plate.

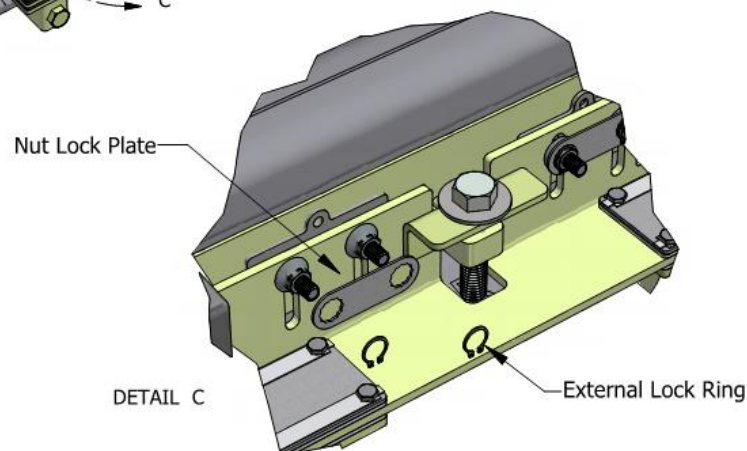
Tighten the flange nut closest to the transducer being adjusted.

Re-check the height of both transducers. Should one of them need adjustment, loosen the flanged nut closest to that transducer and rotate the backplate adjustment screw to raise or lower the transducer into position. Re-tighten the flanged nut after the adjustment.



Once the transducers are located, tighten all the flange nuts to **25 ft lbs.** Place the Nut Lock Plates over flange nuts. Install the lock rings in the notches on the nuts to retain the lock plates.

*NOTE: If a Nut Lock Plate won't fit over both flange nuts one of the nuts will need to be tightened slightly until the lock plate slides over the hex portion of both nuts.*



**NOTE:**

The southmost or westmost transducer is TO1. The northmost or eastmost transducer is TO2.