

# XOS Technical Service Bulletin

Bulletin No.: REC-003-23

Date: December 4, 2023

Subject: Electronic Parking Brake May Fail

Applicability: Xos 2021-2022 SV05, Xos 2021 SA01, Xos 2021-2022 RM01

Service Category: Parking Brake

Section: Electronic Park Brake

Market: USA, Australia, Mexico

## Introduction:

The bolts and brackets connecting the hardware to the electronic parking brake (EPB) system may come loose, causing the parking brake to fail in certain 2021-2022 Xos vehicles. Follow the repair procedure below to resolve this concern.

## Repair Procedure Overview:

1. Confirm affected VIN.
2. Move the vehicle to a safe location with a flat surface and with a wheel chock in place if available.
3. Inspect and correct Electronic Parking Brake system as needed.
4. After all calibrations are completed, test drive the vehicle and cycle the EPB for correction validation.

## Vehicle Applicability:

Model Year	Model
2021 - 2022	SV05 Class 5 Step Van
2021	SA01 Armored Vehicles
2021-2022	RM01 Vehicles

**Warranty Information:**

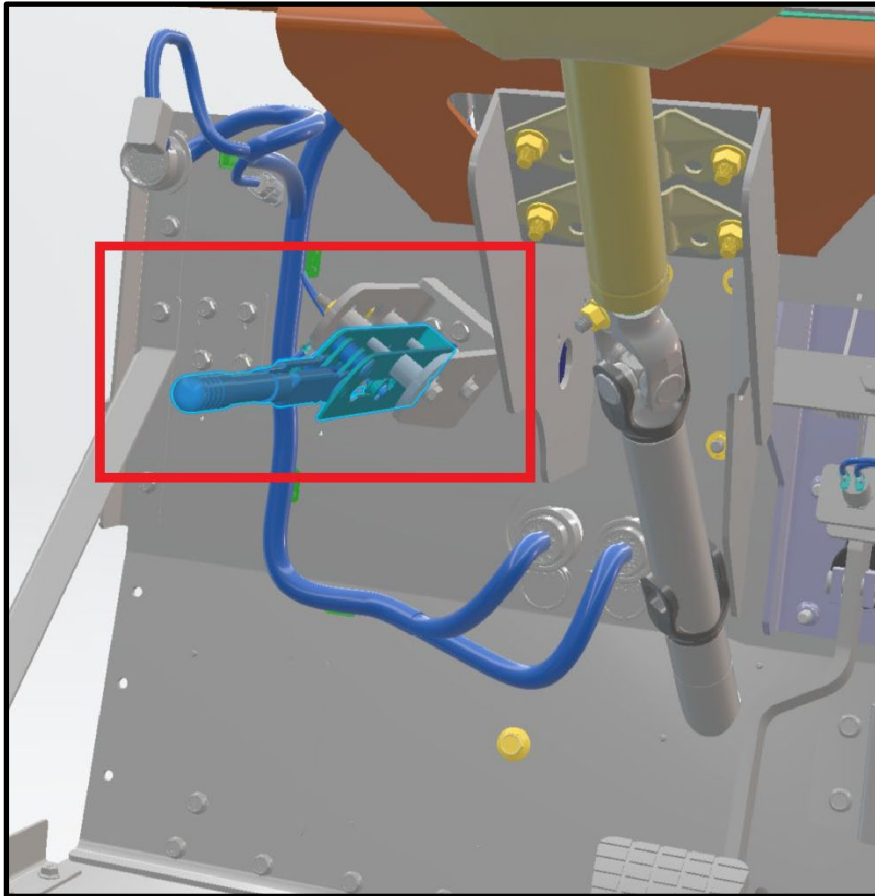
Model	Operation Code	Operation Description	Time (Hours)	Impacted Part #
SV05/SA01/ RM01	23016	Update hardware used to include washer bearings	1.5	Washer from Pivot Bolt: HD40-HH-M0031  Bolt: HD20-HH-M0017  Nut:HD30-HH-M0048
SV05/SA01/ RM01	26014	Update Software to latest released version	1	Not Applicable, Software Update

**Parts Information:**

Part Number	Part Name	Qty
<a href="#"><u>94622A437</u></a>	Cadmium-Plated Steel Hex Head Screw	1
<a href="#"><u>95030A160</u></a>	Low-Strength Steel Locknut	1
<a href="#"><u>90520A104</u></a>	1004-1045 Carbon Steel Cotter Pins	1
<a href="#"><u>AXK1024</u></a>	Thrust Needle Roller Bearings with Washers	2
<a href="#"><u>90850A200</u></a>	Grade 9 Steel Washer	2
<a href="#"><u>60715K11</u></a>	One-Piece Steel Thrust Ball Bearing	1

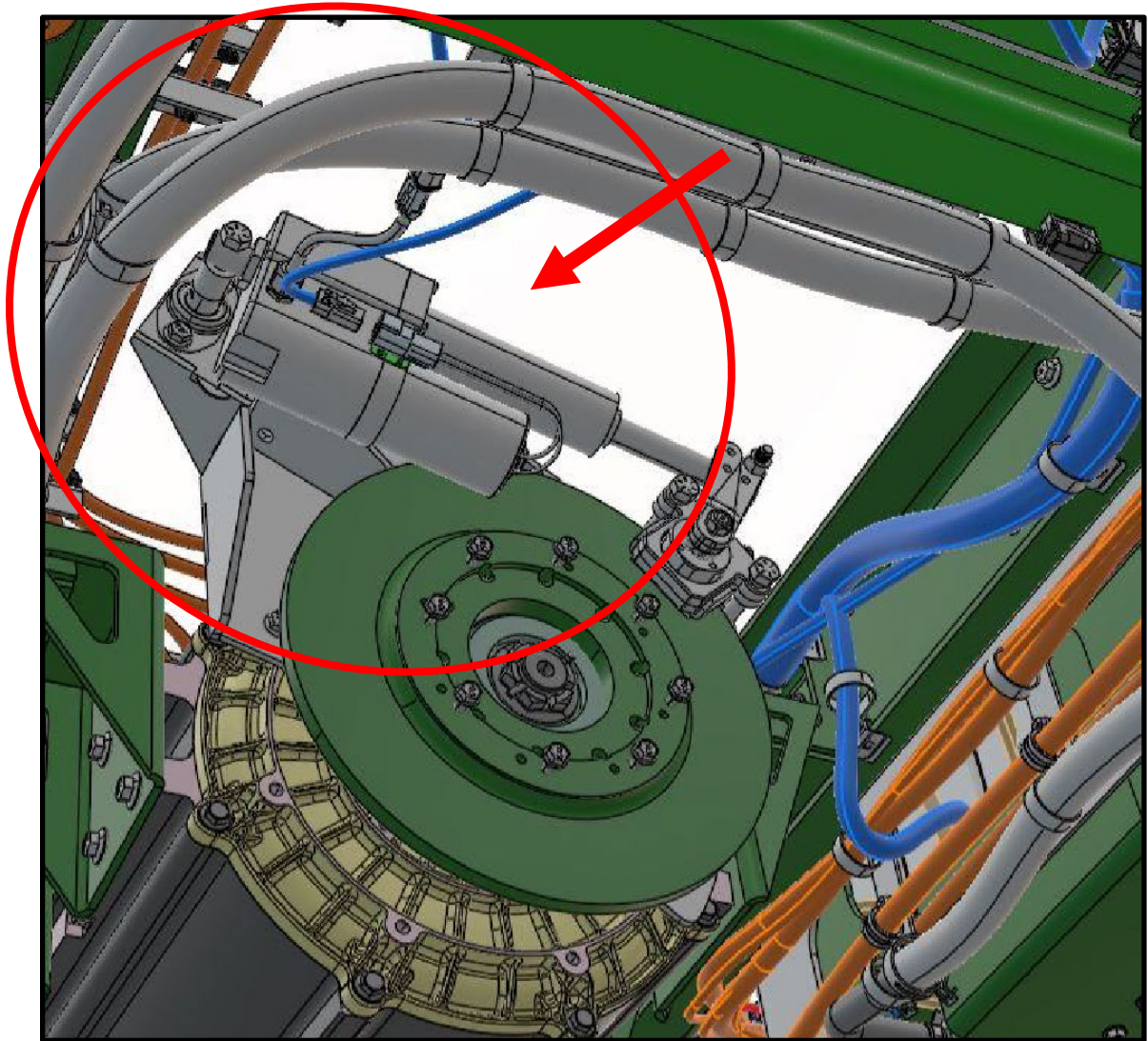
## **REPAIR PROCEDURE**

1. **Confirm the affected VIN. Prior to reworking the EPB, turn the vehicle on. Verify that the hand brake is applied and then set the vehicle to Neutral on the shifter.**



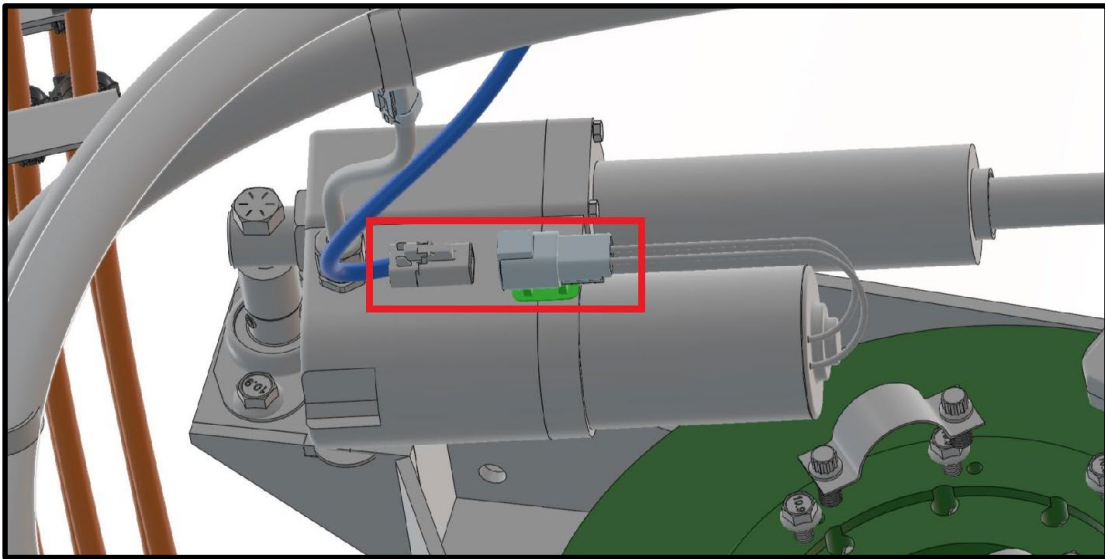
**Image 1 – Verify that the hand brake is applied**

2. Locate EPB on vehicle. The EPB is attached to the rear of the traction drive motor, located between the motor and the driveshaft.



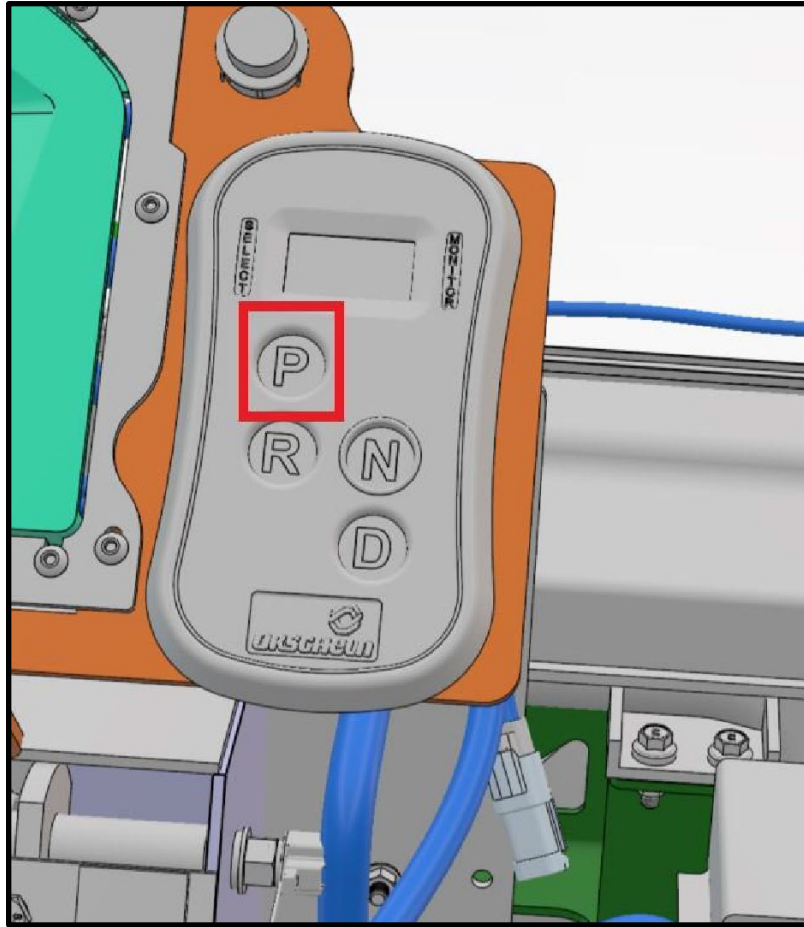
**Image 2 – Locate the EPB between the motor and the driveshaft**

**3. Under the vehicle, disconnect the power connection.**



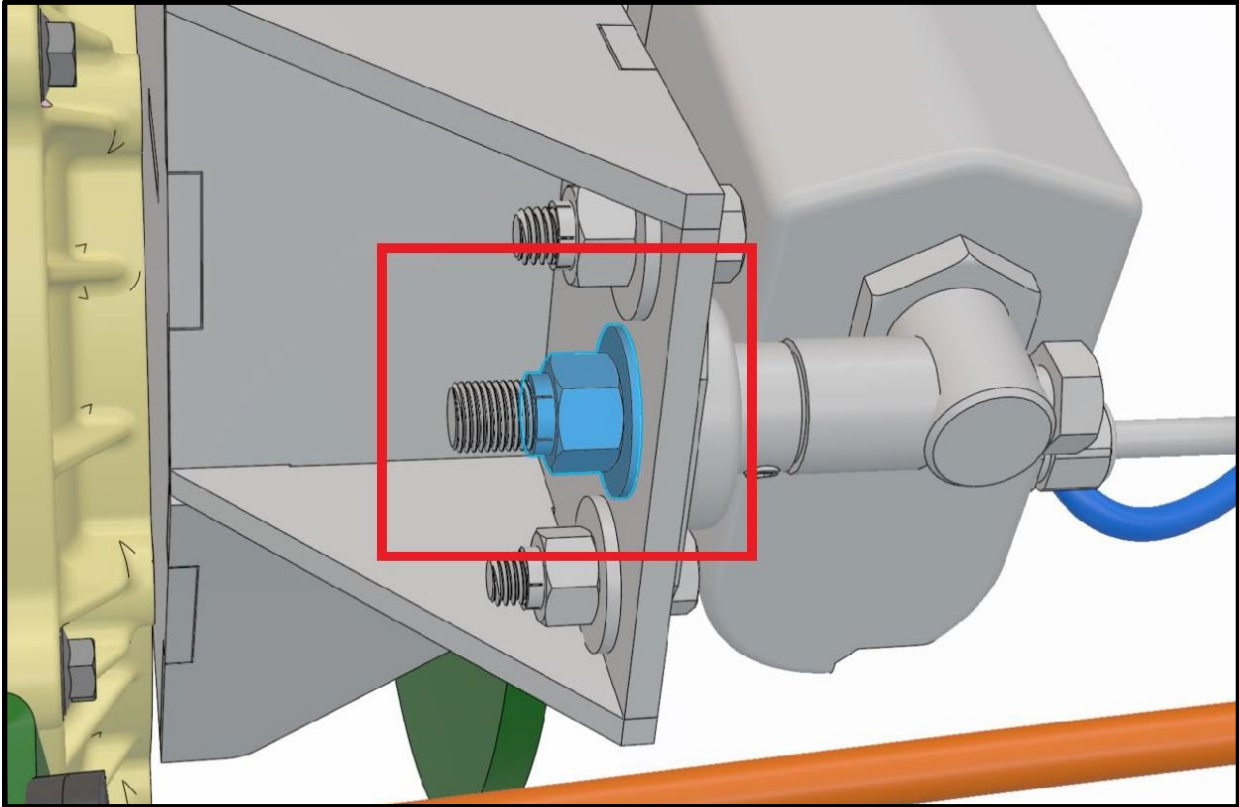
**Image 3: Disconnect the power connection**

4. Move back into the driver's area, select park on the shifter, and turn the vehicle off.



**Image 4: Select Park on the shifter and turn the vehicle off**

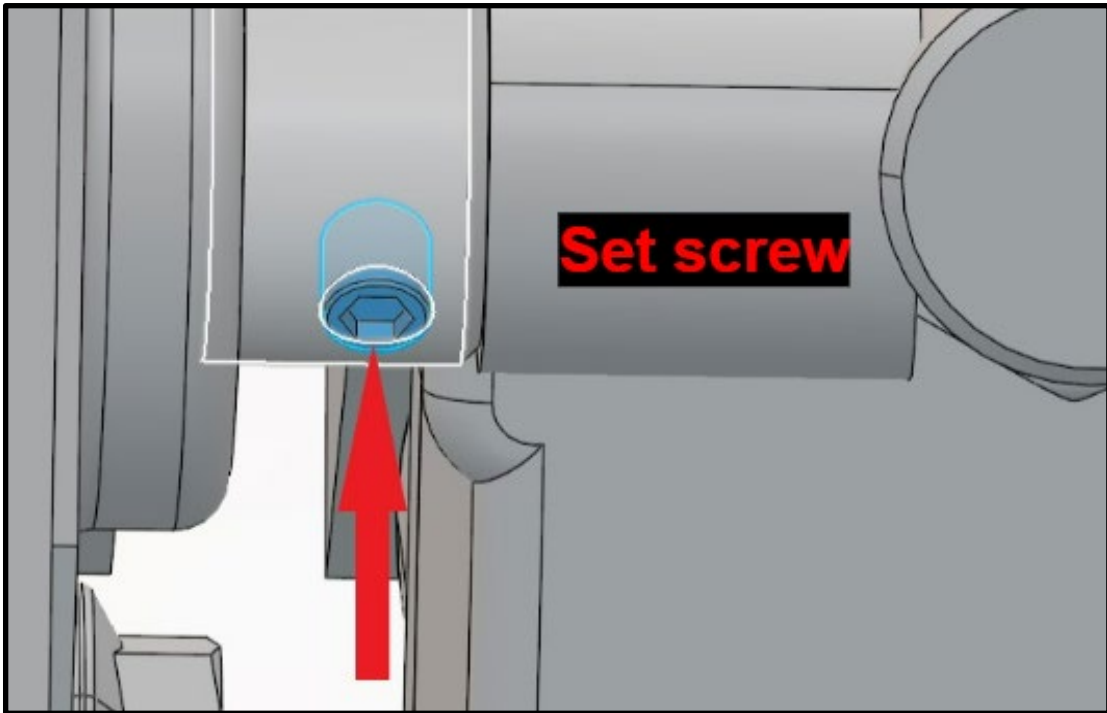
5. Go back under the vehicle to the EPB. Start by removing the nut from the pivot bolt on the actuator. The washer will be removed and not used anymore.



**Image 5: Remove the nut from the pivot bolt and discard the washer**



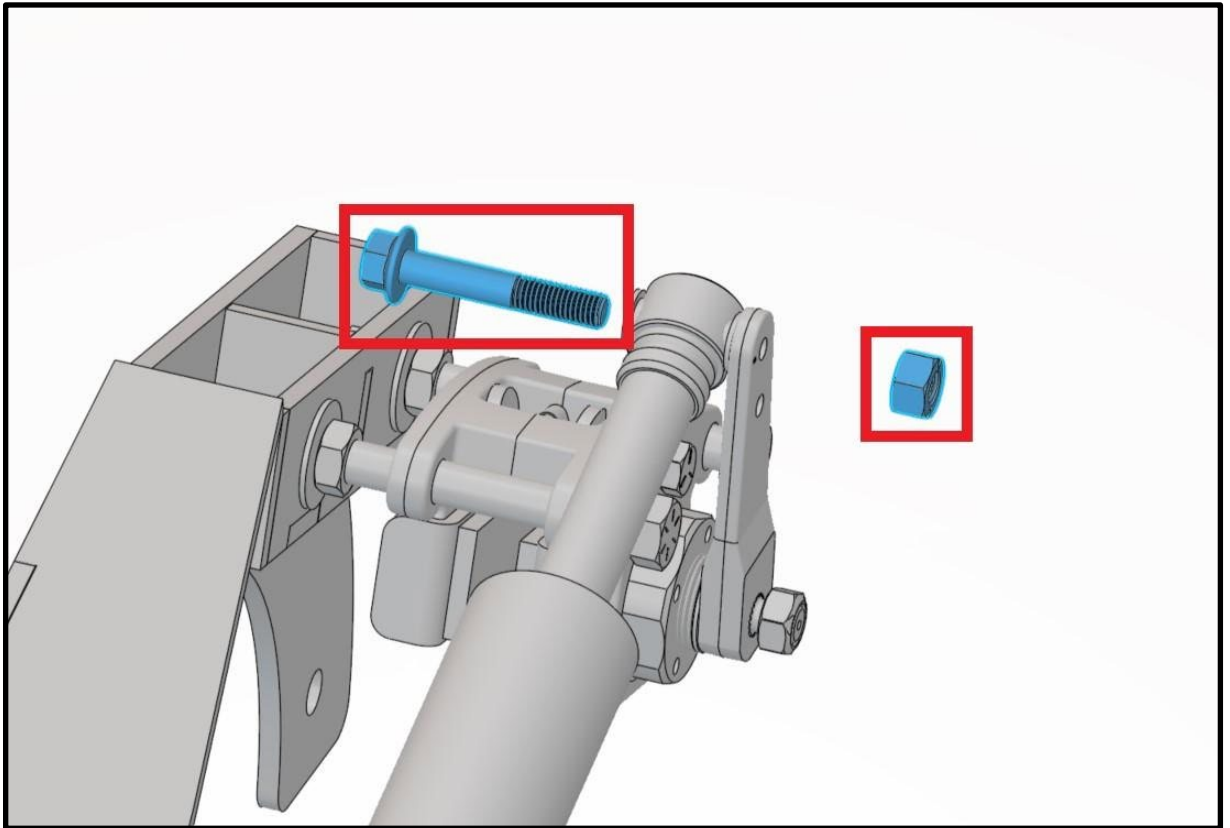
7. **Unbolt the set screw. Clean the screw with a wire brush and apply red Loctite before bolting it back. Tighten the set screw to 13Nm.**



**Image 7: Adjust the set screw; verify that it is tightened to 13Nm.**

**8. Current hardware will be removed and replaced with new rework hardware.**

- **Remove Bolt: HD20-HH-M0017**
- **Remove Nut: HD30-HH-M0048**



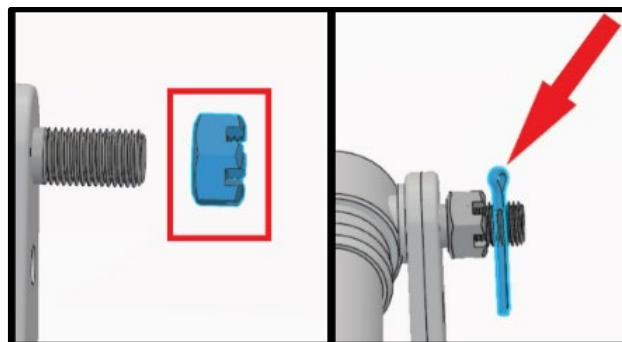
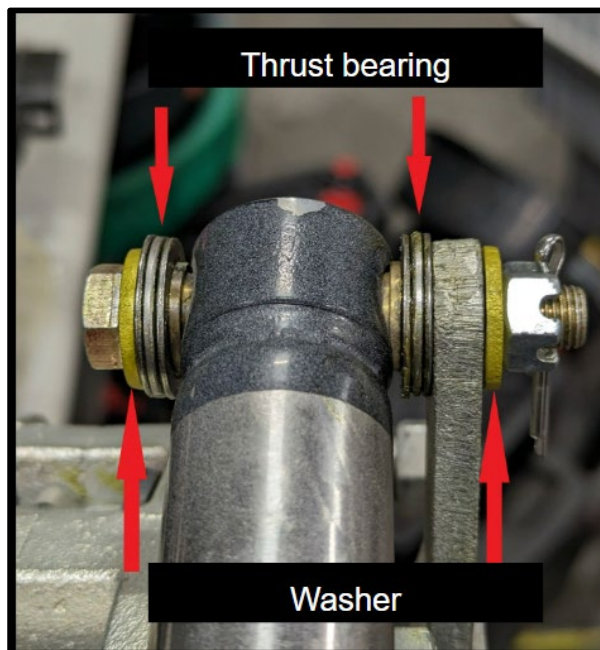
**Image 8: Remove Bolt HD20-HH-M0017 and Nut HD30-HH-M0048**

**9. New hardware to install:**

- **Cotter Pin-Lockable bolt 2-37/64 (94622A437)**
- **Thrust Needle Roller Bearings with Washers (AXK1024) (Apply bearing grease before installing)**
- **Steel Locknut, will need to add 2 x ( $\frac{3}{8}$ ) washers (90850A200) before locknut for spacing**
- **Carbon Steel Cotter Pin**

**Before torquing, verify calibration of EPB.**

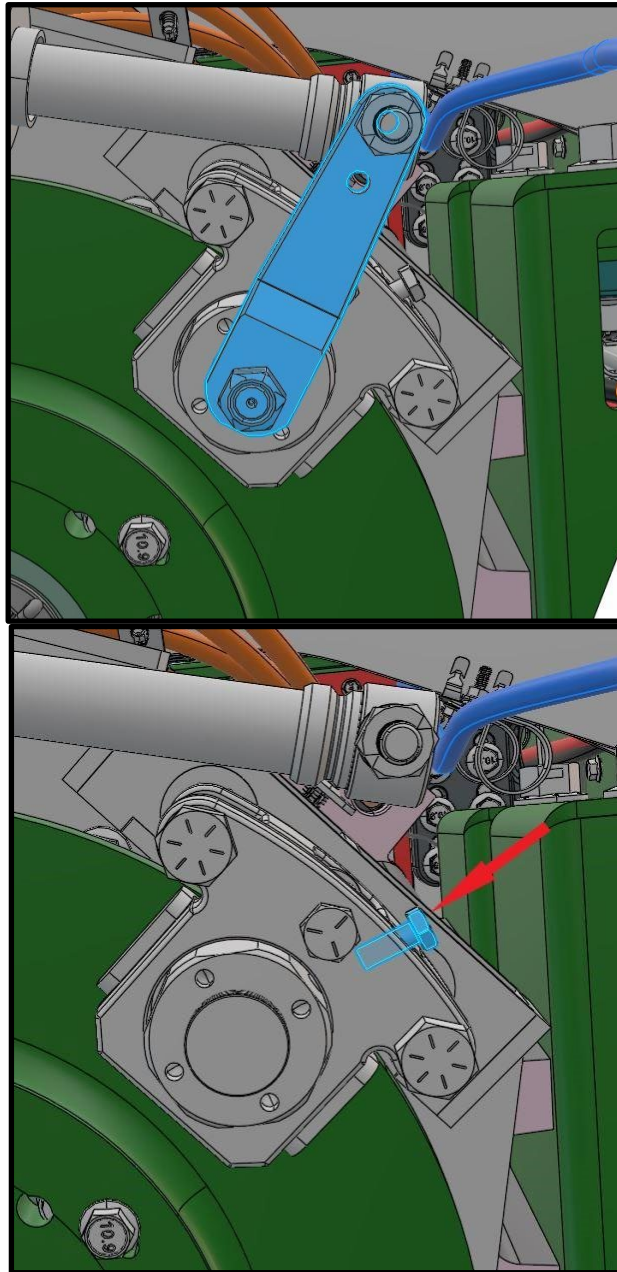
- **Current acceptable measurements for EPB using PiSnoop software:  
Park: 0-2.5 Neutral: 3.7-4.3**
- **Torque lock nut to 5Nm**



**Image 9: Install new hardware**

**10. After adding the updated hardware, the caliper might need to be adjusted. If so, the following steps will show what needs to be done.**

- **Adjustment can be made by removing the caliper traveling arm.**
- **Set bolt will need to be loosened up also in order to rotate the actuator for the pad.**



**Image 10: Adjustment steps (if necessary)**

11. (Continued) After adding the updated hardware, the caliper might need to be adjusted. If so, the following steps will show what needs to be done.

- Rotate clockwise  $\frac{1}{8}$  -  $\frac{1}{4}$  turn.
- Assemble the EPB caliper arm to caliper.
- Once all assembled, test the EPB and verify the measurements on Pismoop.

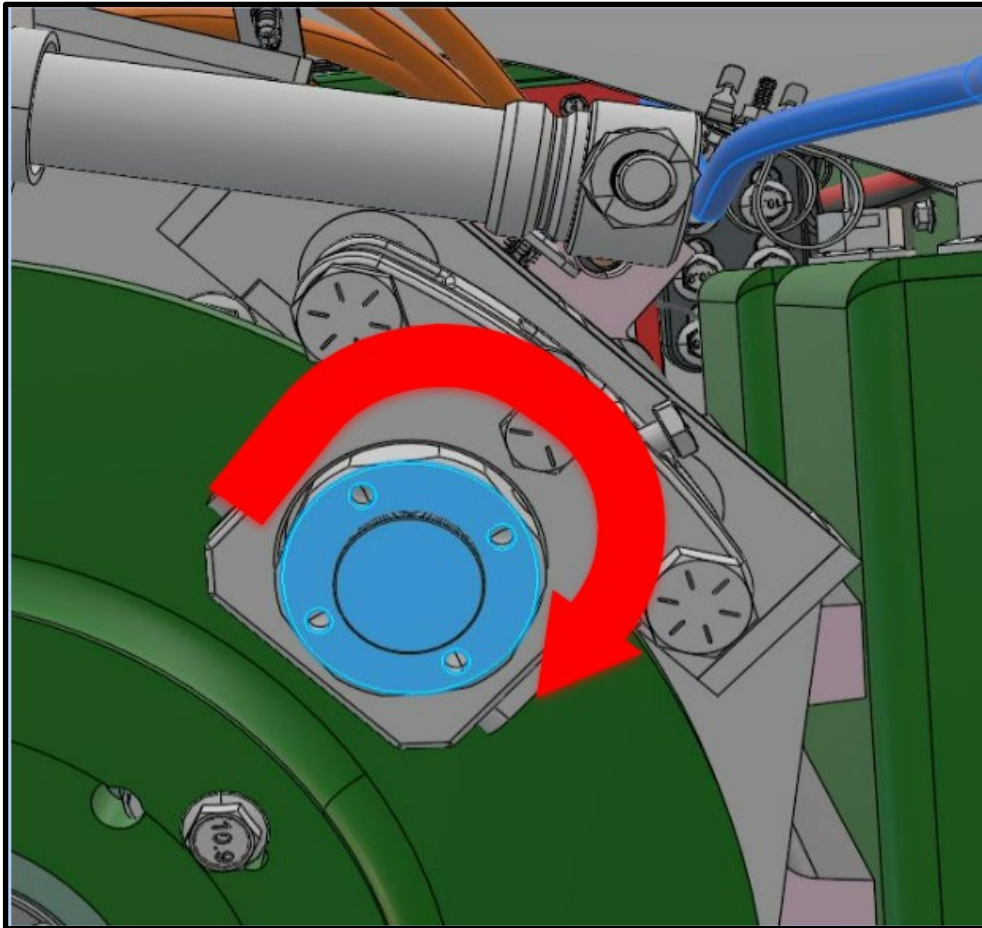
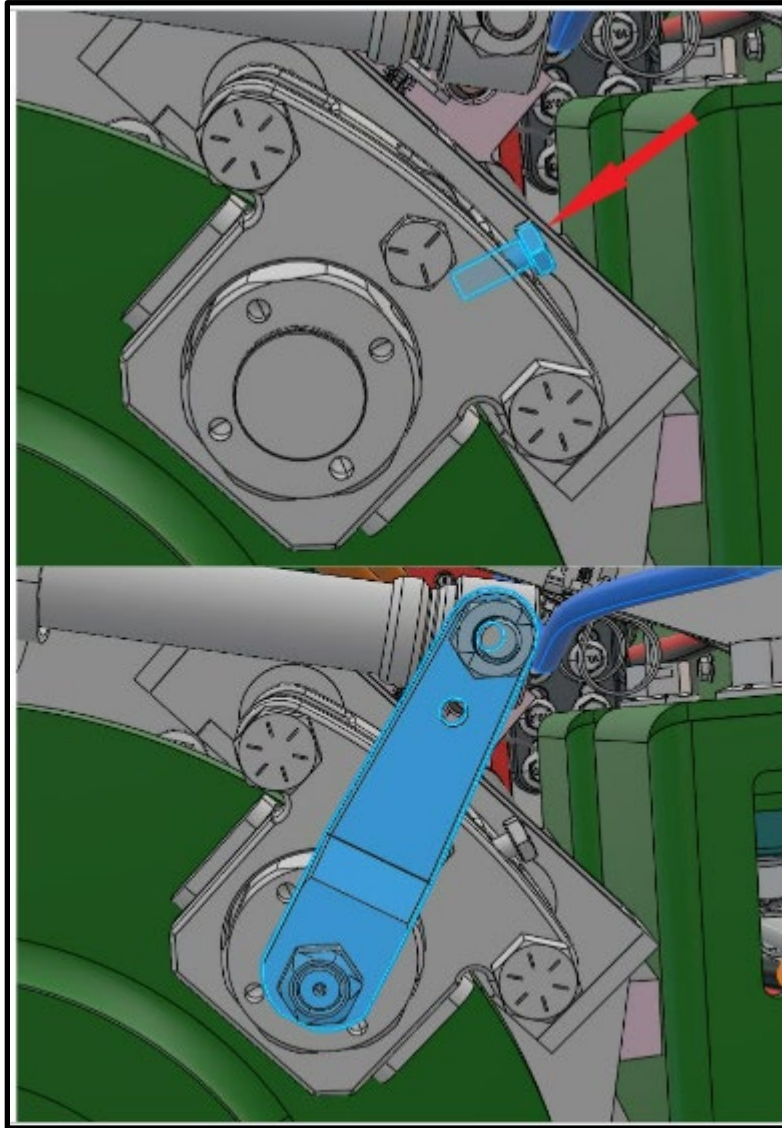


Image 11: Adjustment steps continued (if necessary)

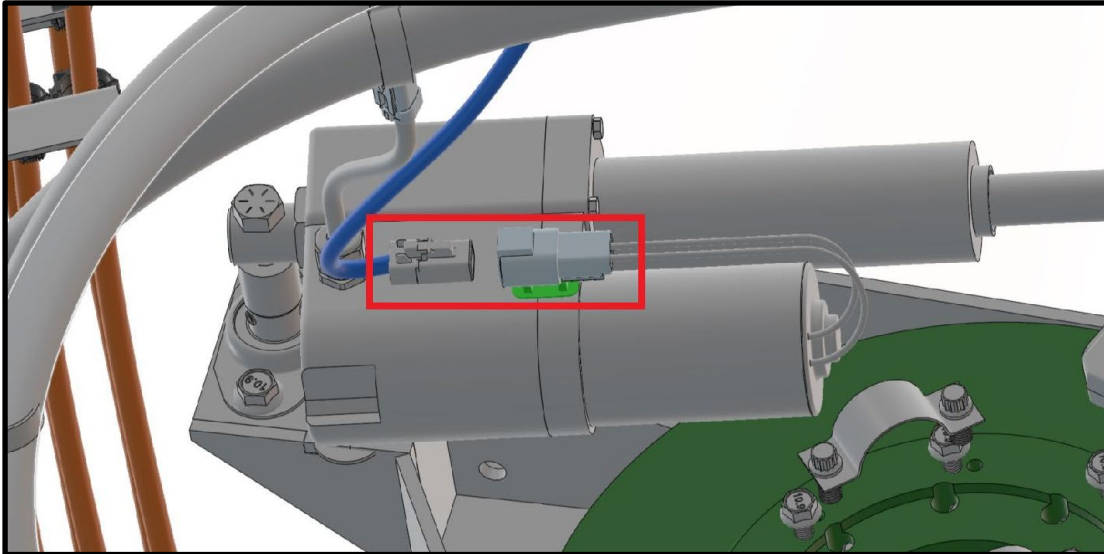
**12. (Continued) After adjusting the caliper piston  $\frac{1}{8}$  -  $\frac{1}{4}$  turn clockwise, reassemble the parts as described below.**

- **Install the set screw and torque to 13 Nm.**
- **Install the traveling arm back on to the caliper and torque the Nut to 30 Nm.**



**Image 12: Adjustment steps continued (if necessary)**

**13. Under the vehicle, reconnect the power connection.**



**Image 13: Reconnect the power connection.**

**14. FINAL STEP: After all calibrations are complete, test drive the vehicle and cycle the EPB six (6) times for validation.**