



# Bezares USA Technical Bulletin

Date December 18, 2023

**Bottom Mount PTOs on the vehicles with Endurant transmission, the computer algorithm logic may inconsistently recognize the PTO's function and status. Changing the switch may improve the communication issues with the activation software and Eaton HD 12 and XD 18 speed Endurant Transmission.**

## **Warranty:**

There is no effect on current warranty coverage beyond the one-year installation date.

## **PTOs affected:**

2000/2010 Series Bottom mount, 8-Bolt, Air shift.

- ✓ PT2000X\*N77\*\*\*
- ✓ PT2010X\*N75\*\*\*

8500/8510 Series PTO Heavy Duty Bottom mount, 8-Bolt, Air shift

- ✓ PT8500X\*N77\*\*\*
- ✓ PT8510X\*N75\*\*\*

## **Issue:**

Inconsistent feedback from the PTO switch to the Cab Controller / and or the transmission controller for several seconds causes the PTO to disengage. Changing the switch may improve the feedback signal to the Eaton Endurant HD, HDV, PACCAR TX-12, PACCAR TX-12 PRO, Endurant XD, XD PRO, and PACCAR TX-18, TX-18 PRO Transmissions.

## **Symptoms:**

PTO randomly disconnects during operation.

## **Root Cause:**

Communication issues between Cab Controller software, Transmission TCM software and PTO activation switch.

## Resolution:

Step 1, Resolve any defect codes between Cab Controller, Transmission TCM and the switch. If switch needs replaced compare any resulting default codes to previous. Resolve all codes appropriately.

- 2000/2010 Series Bottom mount, 8-Bolt, Air shift
  - Change the current indicator switch from PT9096899 to PT9099999. Verifying the software in the truck recognizes the indash PTO switch and operates correctly. Verify fault codes are addressed properly and corrected.
  
- 8500/8510 Series Bottom mount Heavy Duty, 8 Bolt, Air shift.
  - Change the current pressure switch to PT9099999 + M18x1.5 plug 118020036 **as per instructions**. Verifying the software in the truck recognizes the indash PTO switch and operates correctly. Verify fault codes are addressed properly and corrected.

Step 2, If after step 1 there is no improvement in PTO performance refer to TRIG2600 for pertinent wiring and connection specifications.

[Eaton Cummins Automated Transmission Technologies - PTO Installation Guide](#)

Step 3, if after step 1 & 2 there is no improvement in PTO performance call the Eaton/Bezares toll free technical service number @ 800-826-4357.

**Appendix:**

**\*\*\* Switch Kit - PT9099999 \*\*\***



**\*\*\* Plug M18x1.5 - 118020036 \*\*\***



\*\*\* 2000/2010 Series Instructions \*\*\*



1. Unplug the wire and remove the indicator connector from the pneumatic shifter housing.



2. Replace the current switch kit by the new one.



3. Apply a few drops of Loctite 270 to the new indicator switch thread.  
NOTE: do not apply too much to avoid the glue contact with the ball



4. Fit the copper washer into the switch, tight the new indicator switch (30Nm / 22Lb.ft) and plug the wire.

\*\*\* 8500/8510 Series Instructions \*\*\*

When indicator switch was assembled:



1. Unplug the wire and remove the indicator connector from the pneumatic shifter housing.



2. Replace the current switch kit by the new one.



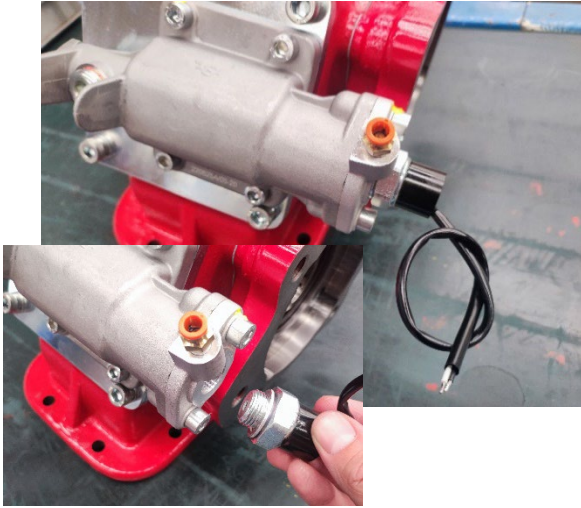
3. Apply a few drops of Loctite 270 to the new indicator switch thread.  
NOTE: do not apply too much to avoid the glue contact with the ball



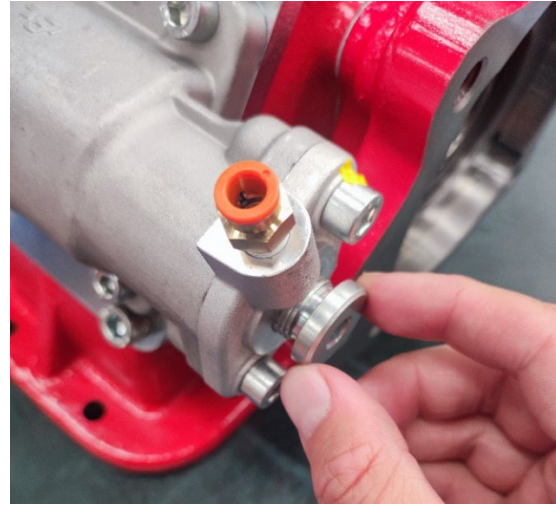
4. Fit the copper washer into the switch, tight the new indicator switch (30Nm / 22Lb.ft) and plug the wire.

\*\*\* 8500/8510 Series Instructions \*\*\*

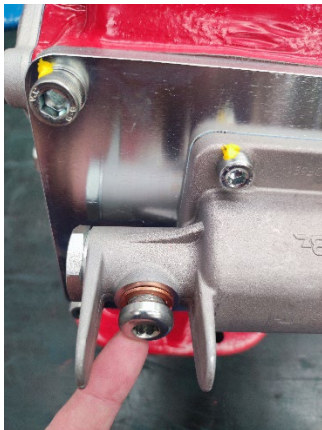
When pressure switch was assembled:



1. Remove the pressure switch from the pneumatic shifter housing.



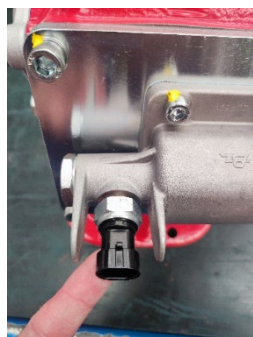
2. Tight the M18x1,5 plug at the specified torque (30±40 Nm / 22±30 Lb.ft).



3. Remove the plug from the indicator switch port of the pneumatic shifter housing.



4. Apply a few drops of Loctite 270 to the new indicator switch thread.  
NOTE: do not apply too much to avoid the glue contact with the ball



5. Fit the copper washer into the switch and tight it (30Nm / 22Lb.ft) to the cover.



6. Plug the wire to the new indicator switch.

# Change Log

<b>Last Revision Date</b>	<b>Description of Clarifications and Updates</b>
December 2023	Engineering approval and release Name _____ Title _____