

Title:	Volterra EMIVT Input, Output, and PTO2 Seals			
Number:	783	Release Date:	8/4/2026	
Revision Number:	Not Applicable	Revision Date:	Not Applicable	
Chassis Type:	Volterra Apparatus			
Component Description:	EMIVT			
Warranty:	EMIVT Five Year Limited Base Warranty			
Parts:	See table below			

You are receiving this message because your dealership has one or more Volterra vehicles within your designated service territory. This distribution group is used by Pierce to communicate Volterra-specific updates, including service bulletins, software releases, technical information, and other important notifications that may impact your supported fleet.

This is a Service Bulletin. Parts and labor associated with the information outlined in this bulletin are covered under the EMIVT five-year limited warranty. Parts associated with this information can be purchased through the local dealer network.

Subject:

New tooling, seals, and seal kits are available for Volterra electromechanical infinitely variable transmissions (EMIVT).

Purpose:

Engineering and vehicle design is an iterative process. Pierce Manufacturing engineering and Allison Transmission have improved upon existing EMIVT configurations with new seals.

Procedure:

NOTE: This bulletin instructions are for installing the seal and metal sleeve. If the seal needs to be replaced after the metal sleeve has already been installed in a prior installation, only the seal needs to be ordered along with the corresponding tool to press the seal into the sleeve which is fixed in the EMIVT.

SEAL AND SLEEVE KITS,EMIVT,ESV604		
PN	Description	Qty
4964980	KIT,SEAL AND SLEEVE,INPUT,EMIVT,ESV604	1
4964961	KIT,SEAL AND SLEEVE, OUTPUT,EMIVT,ESV604	1
4964994	KIT,SEAL,YOKE,PTO2, EMIVT,ESV604	1

SEAL,EMIVT,ESV604			Required Tool		
PN	Description	Qty	PN	Description	Qty
4964978	SEAL,INPUT,EMIVT,ESV604	1	4976766	ESV INPUT SEAL TOOL	1
4964961	SEAL,OUTPUT,EMIVT,ESV604	1	4976765	ESV OUTPUT SEAL TOOL	1
4964984	SEAL,YOKE,PTO2, EMIVT,ESV604	1	4976767	ESV PTO2 SEAL TOOL	1

Output Seal

NOTE: For image clarity in viewing the bottom of the EMIVT output cover, the output shaft is not shown in the images below. The EMIVT output cover does not need to be removed from the EMIVT to install the seal sleeve assembly. The seal sleeve assembly can be slid over the output shaft and then seated into the EMIVT output cover.

1. Park vehicle on a smooth, level, solid surface.
2. Attach 'DO NOT START' tag to vehicle ignition switch.
3. Place wheel chocks in front of and behind tires to prevent movement.
4. Place battery disconnect switch in OFF position

WARNING

This vehicle contains high voltage components. Service must be performed only by qualified personnel. All safety precautions must be followed. Failure to comply could result in serious injury or death

5. Complete vehicle high voltage isolation steps in the Vehicle High Voltage Disablement Verification Safety Procedure to verify vehicle high voltage is disabled. Refer to your service manual.
6. Remove output yoke from EMIVT.
7. Remove seal from EMIVT cover.
8. Inspect inside and outside of seal sleeve for burrs, nicks, or other deformities that may damage seal during installation. Repair if necessary.
9. Clean inside of output cover with isopropyl alcohol.



10. Apply Loctite 638 to the inside surface of EMIVT output cover.



11. Apply Loctite 638 to the outside surface of seal sleeve.

⚠ CAUTION

Seal sleeve assembly must be fully seated in EMIVT output cover. Failure to do so may lead to damage to equipment.



12. Install the seal sleeve assembly into the output cover by pushing the kit down and rotating around the output shaft. The metal sleeve must be fully seated to the bottom of the EMIVT output cover.
13. Install output yoke.
14. Allow 24 hours for the Loctite to cure before activating the EMIVT.

Input Seal

NOTE: For image clarity in viewing the bottom of the EMIVT output cover, the output shaft is not shown in the images below. The EMIVT output cover does not need to be removed from the EMIVT to install the seal sleeve assembly. The seal sleeve assembly can be slid over the output shaft and then seated into the EMIVT output cover.

1. Park vehicle on a smooth, level, solid surface.
2. Attach 'DO NOT START" tag to vehicle ignition switch.
3. Place wheel chocks in front of and behind tires to prevent movement.
4. Place battery disconnect switch in OFF position

WARNING

This vehicle contains high voltage components. Service must be performed only by qualified personnel. All safety precautions must be followed. Failure to comply could result in serious injury or death

5. Complete vehicle high voltage isolation steps in the Vehicle High Voltage Disablement Verification Safety Procedure to verify vehicle high voltage is disabled. Refer to your service manual.
6. Remove input yoke from EMIVT input cover.
7. Remove seal from EMIVT input cover.



8. Inspect inside and outside of seal sleeve for burrs, knicks, or other deformities that may damage seal during installation. Repair if necessary.
9. Clean inside of output cover with isopropyl alcohol.



10. Apply Loctite 638 to the inside surface of EMIVT input cover.



11. Apply Loctite 638 to the outside surface of seal sleeve.

CAUTION

Seal sleeve assembly must be fully seated in EMIVT output cover. Failure to do so may lead to damage to equipment.



12. Install the seal sleeve assembly into the output cover by pushing the kit down and rotating around the input shaft. The metal sleeve must be fully seated to the bottom of the EMIVT input cover.
13. Install input flange yoke.
14. Allow 24 hours for the Loctite to cure before activating the EMIVT.

PTO2 Seal

NOTE: For image clarity in viewing the bottom of the EMIVT PTO2 cover, the PTO2 shaft is not shown in the images below. The EMIVT PTO2 cover does not need to be removed from the EMIVT to install the seal sleeve assembly. The seal sleeve assembly can be slid over the PTO2 shaft and then seated into the EMIVT PTO2 cover.

1. Park vehicle on a smooth, level, solid surface.
2. Attach 'DO NOT START" tag to vehicle ignition switch.
3. Place wheel chocks in front of and behind tires to prevent movement.
4. Place battery disconnect switch in OFF position

WARNING

This vehicle contains high voltage components. Service must be performed only by qualified personnel. All safety precautions must be followed. Failure to comply could result in serious injury or death

5. Complete vehicle high voltage isolation steps in the Vehicle High Voltage Disablement Verification Safety Procedure to verify vehicle high voltage is disabled. Refer to your service manual.
6. Remove PTO2 yoke from EMIVT cover.
7. Remove seal sleeve and seal from EMIVT cover.
3. Inspect inside and outside of seal sleeve for burrs, knicks, or other deformities that may damage seal during installation.



4. Ensure seal is completely seated and intact.



5. Apply Loctite 638 to the inside surface of EMIVT cover.



6. Apply Loctite 638 to the outside surface of seal sleeve.

⚠ CAUTION

Seal sleeve assembly must be fully seated in EMIVT PTO2 cover. Failure to do so may lead to damage to equipment.



7. Install the seal sleeve assembly into the output cover by pushing the kit down and rotating around the PTO2 shaft. The metal sleeve must be fully seated to the bottom of the EMIVT output cover.
8. Install input flange yoke.
9. Allow 24 hours for the Loctite to cure before activating the EMIVT.

Seal and Sleeve Assembly

If the sleeve has been installed and a new seal needs to be installed, then the appropriate seal tool (see chart at start of bulletin) is required for installation.

1. Remove installed seal from sleeve.

NOTE: Seal sleeve is installed with Loctite. It is not necessary or practical to remove the sleeve from the covers to install new seals. Picture shows seal sleeve removed for clarity.



2. With the use of a press and seal tool, press seal into seal sleeve.
3. Install covers on vehicle.

If any additional support is needed, please open a technical support incident on www.pierceparts.com.