



Preliminary Information

PIP5894 Diagnostic Aids For Transfer Case Actuator Alignment

Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Chevrolet	Silverado MD 4500 5500 6500	2019 - 2023	All	All	All	All

Involved Region or Country	North America
Additional Options (RPO)	NQF
Condition	Transfer case may become bound and/or unable to learn following service
Cause	Movement of the actuator to align bolts during service or repair

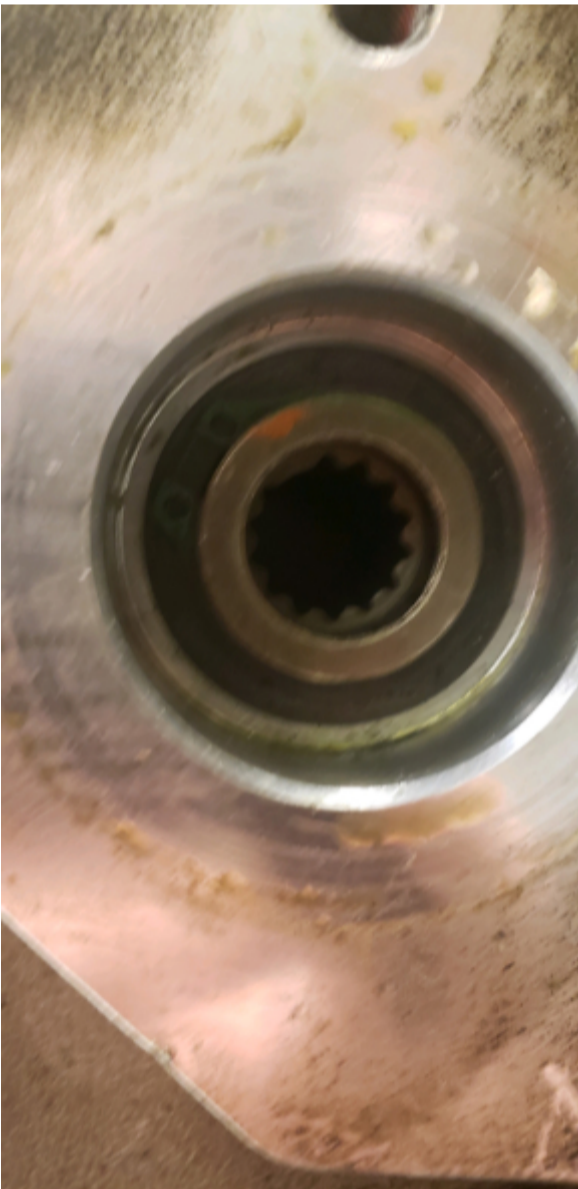
Correction:

When diagnosing or during repair of the Meritor transfer case (RPO NQF) on a Medium Duty truck, the transfer case learn procedure may not complete

When installing the transfer case actuator, it is important to make sure the actuator keyway spline is in the proper location during installation

Note: The transfer case actuator should only be removed or installed in the 2HI position

When properly aligned, the keyway spline on the internal shift shaft and the transfer case actuator should be in roughly the 10 O'clock position (See Examples in the pictures below)



If the alignment spline is not in this location, the bolt holes that attach the actuator to the transfer case will not align.

Due to the unique build of this transfer case and the non-synchronized nature of the gears, twisting or moving the actuator to line up the bolt holes will cause the internal gears of the transfer case to bind

This bind can and will prevent the learn from completing when completing repairs to the unit or replacement of the actuator

When installing, the actuator should slide fully into position and there should be no need to move the actuator to align the holes

If the actuator is in the proper position and the transfer case shaft is not, the shift shaft of the transfer case can be moved using a suitable tool to move it to the 10 O'clock position

Currently, there is no data in GDS2 to verify if the transfer case actuator is in the correct position.

If the alignment spline on the transfer case is not located in the 10 O'clock position, do not attempt to move the actuator using the scan tool. Instead, using a fused jumper wire on the bi-directional transfer case actuator circuits and a suitable power supply or battery, jump the control circuits of the actuator motor to move the spline into the correct location

Note: Over movement of the actuator motor may cause damage to the internal sensor, care should be taken to not allow more than 360 degrees of rotation in either direction

Once the Actuator splines are in the correct location, reinstall the actuator.

Note: No significant movement of the actuator should be needed to align the bolt holes

At this point attempt the learn procedure, if the learn procedure fails, reattempt the learn with the wheels off the ground to alleviate internal binding of the transfer case gears.

If the learn will still not complete, in a safe location, attempt to gently rock the vehicle to help align the internal components to allow the shift to complete

If the learn will still not complete, replace the transfer case actuator

This PI will be removed when SI is updated to include the above information

Version History

Version	1
Modified	12/14/2022 - Created.



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