

SS 1034558 OBD16 M2,108SD & 114SD Allison transmission not shifting due to harness chafing

Applicable Vehicles:

M2, 108SD and 114SD OBD 2016 vehicles with Allison 1K, 2K, 3K and 4K transmission.

Symptoms

Symptoms reported include, truck will not go into gear or is stuck in gear. In addition to the symptoms, there are transmission fault codes that are generated.

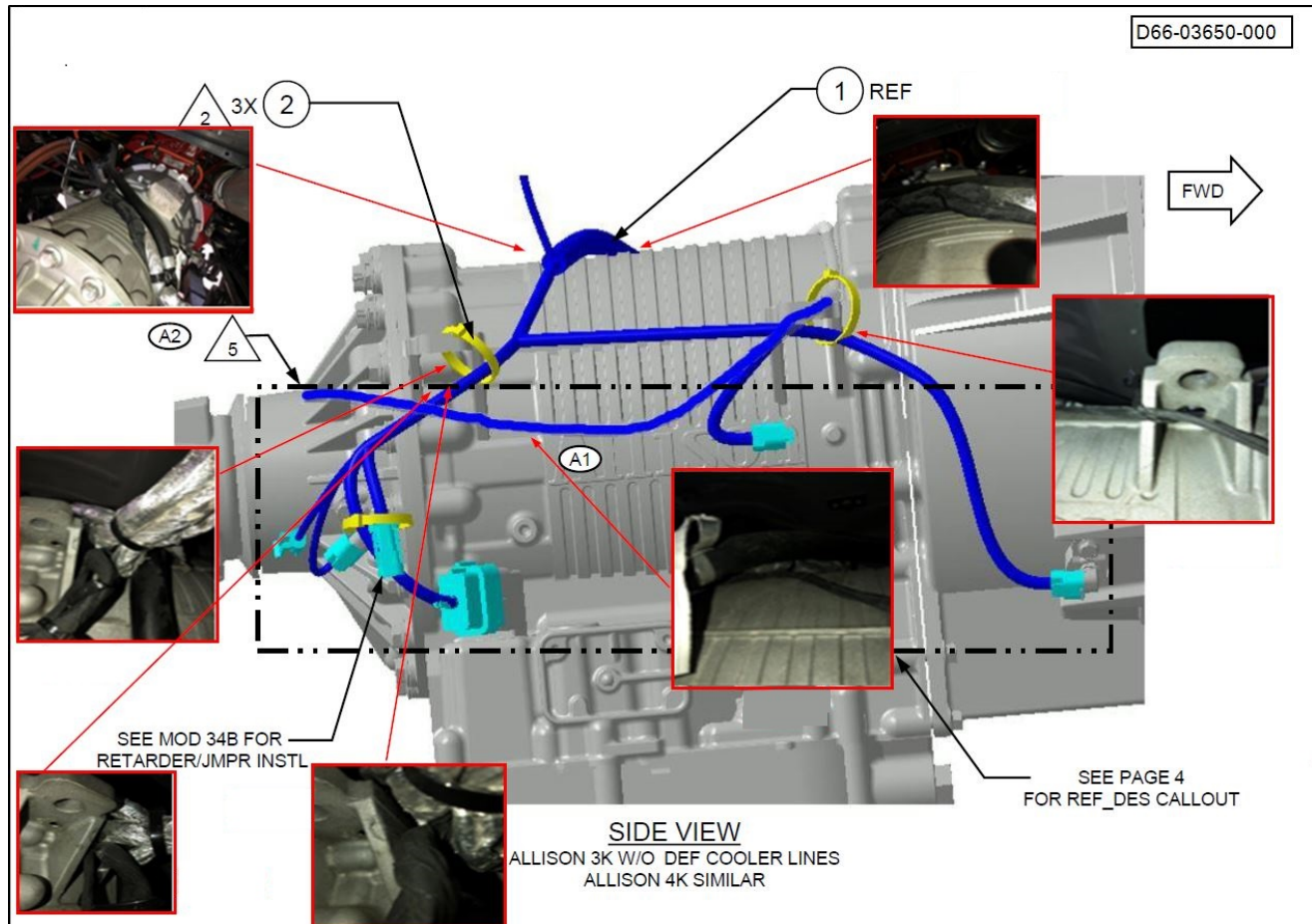
Issue:

Chaffing can occur on several areas of the transmission wiring as noted in the first picture 1 below. The example picture is of an Allison 3K transmission, but similar chaffing can occur on the 1K, 2K and 4K transmissions. Over time the chaffing can lead to wires coming in contact with each mounting point and or wires coming in contact with each other.

Solution:

To reduce the risk of chafing , fastening location on the transmission were update at both Mount Holy and Santiago truck plants on 9/26/2019. The updates for each of the vehicle / transmission types is listed below and labeled. If chafing is found at or around any of the mounting points on the transmission, it would be recommended to update the harness routing per the vehicle / transmission types listed below.

Picture 1

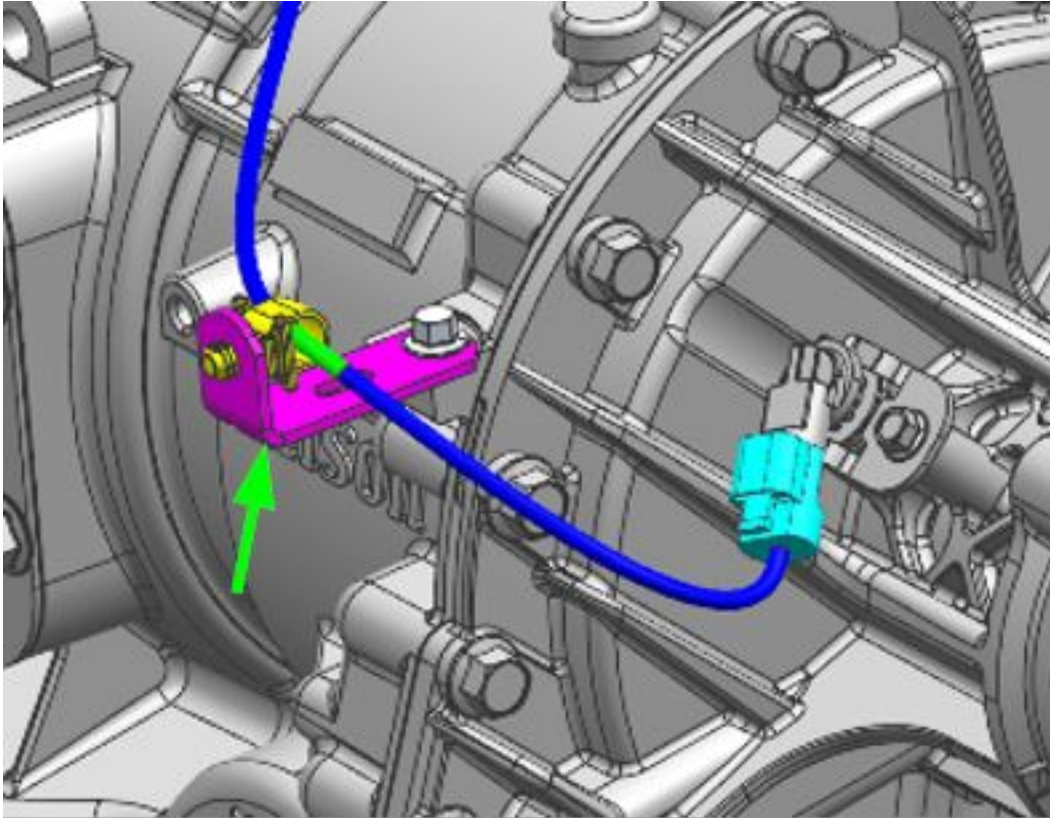


Harness Routing 1

Vehicle Type: 106, 108SD
Transmission Type: 1K, 2K
Engine Type: DD5, DD8

1. **A) RH Single Fuel Tank configurations:** Mount 23-09130-017, 23-13974-020 and 23-13482-004 to move harness away from transmission housing.

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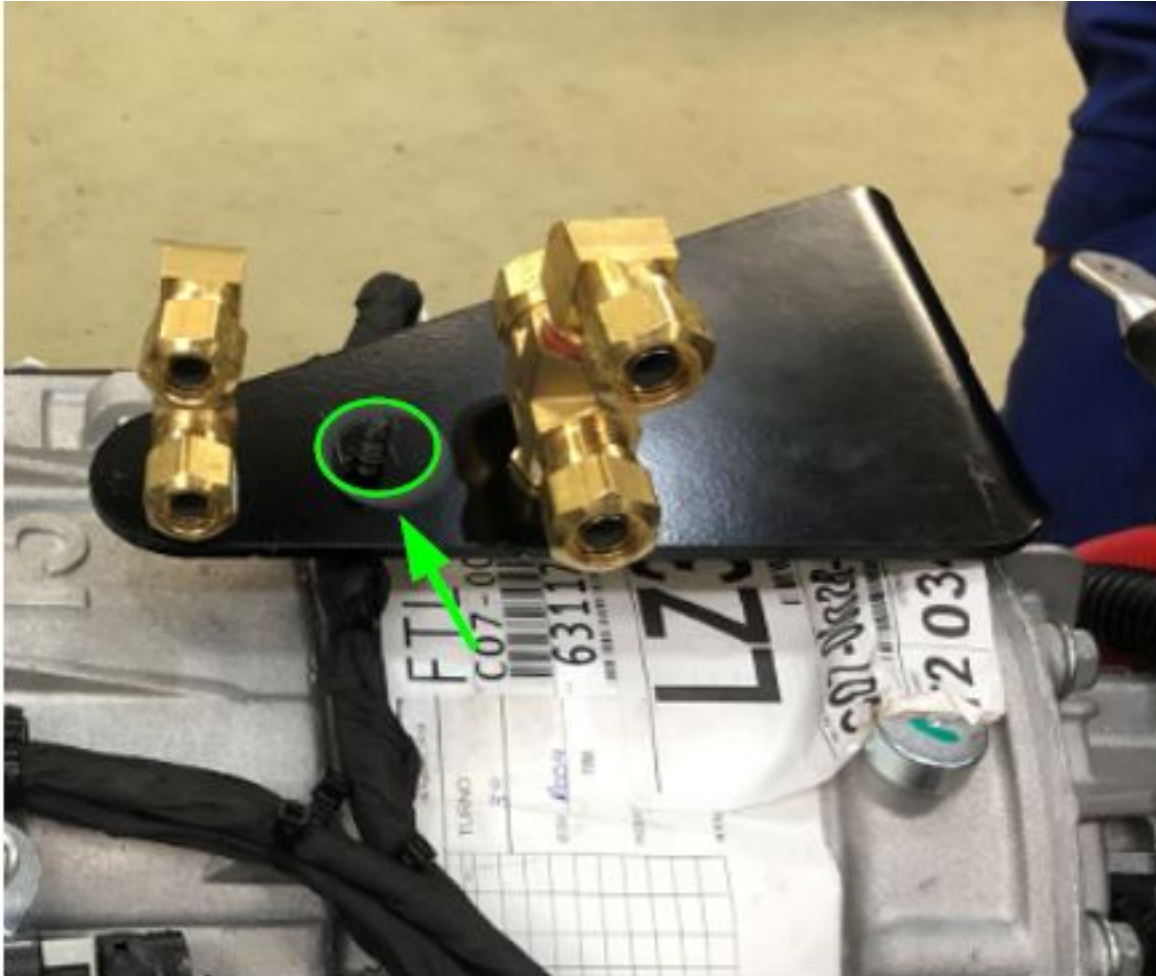


1. **B) LH Single Fuel Tank configurations:** Mount 23-09130-021, 23-13974-020 and 23-13482-003 to move harness away from transmission housing.

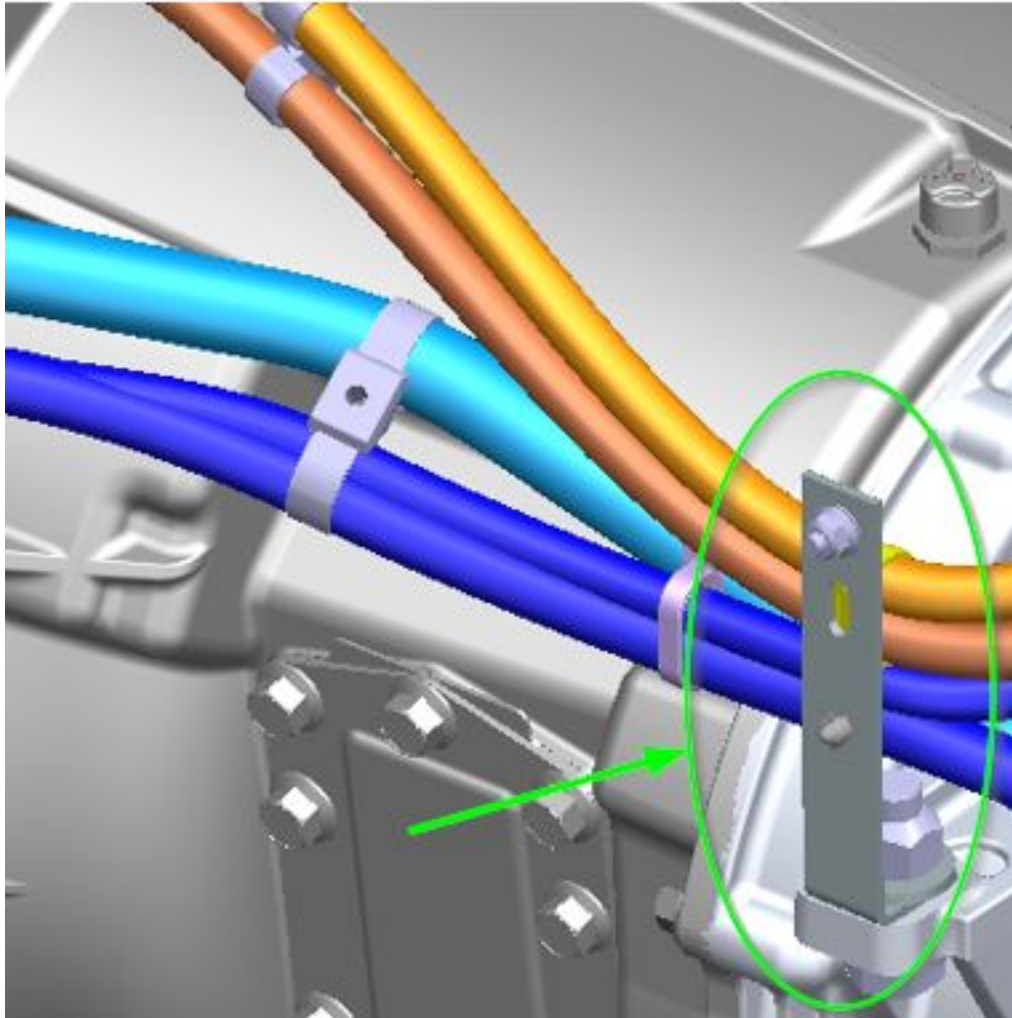


1. **C) Dual Fuel Tanks configurations:** Mount Fir tree 23-13482-003 below the fuel line bracket (The one used to mount the "Tee Valves").

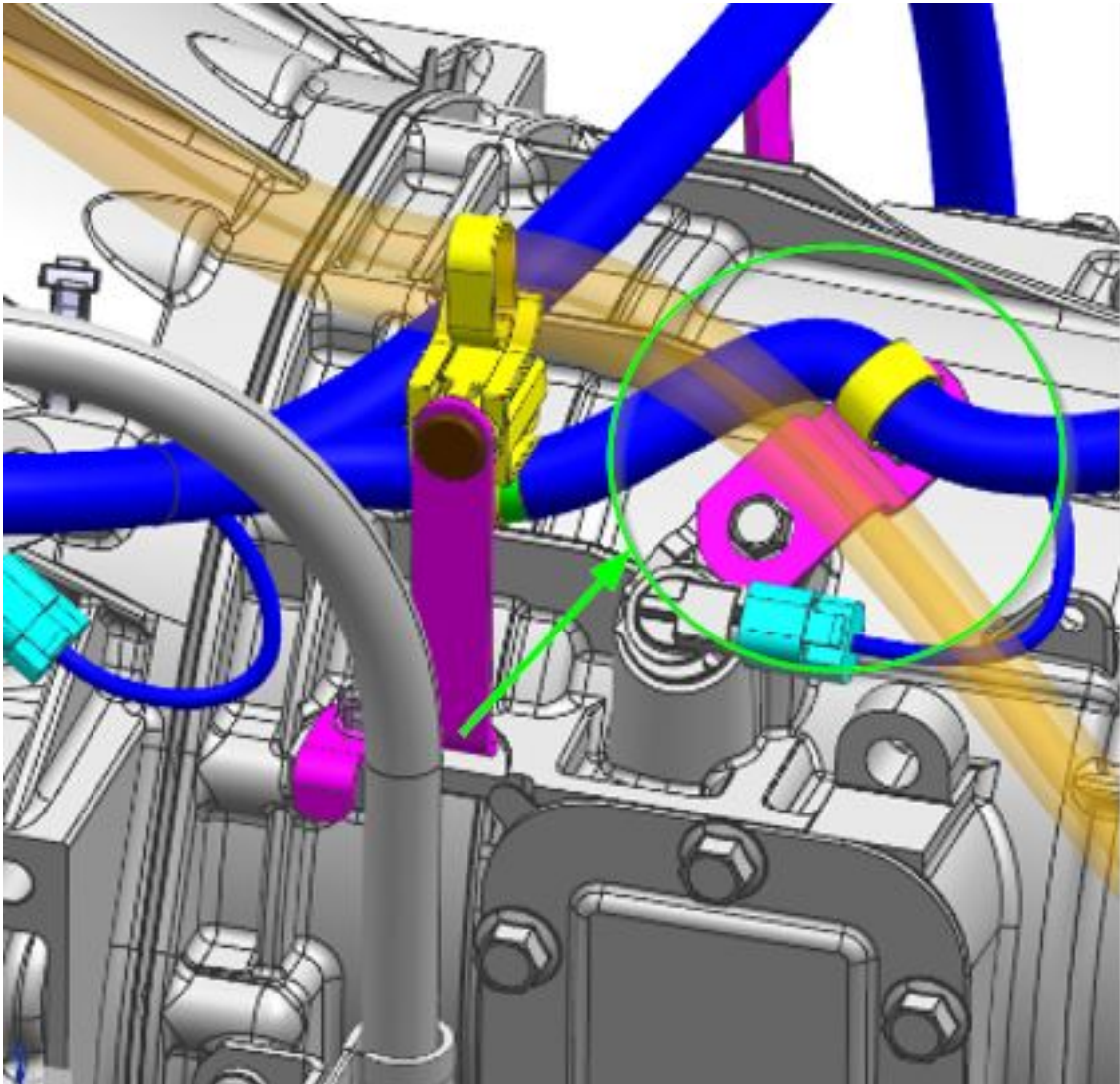
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2. **Any fuel tanks configuration:** Use 06-09782-000 instead of 23-09130-033 when installing fuel lines. Use the bottom hole with 23-13482-003 to clip the transmission harness.



3. **Any fuel tanks configurations:** Use bracket 23-13863-000 together with Fir Tree 23-13482-004 near the Turbine Speed Sensor to move trans harness away from any rubbing component.



Parts List for Harness routing 1

Allison 1K , 2K Chassis 106, 108SD Engine DD5, DD8			
	Part Number	Part Description	QTY
1A R/H Single Fuel Tank			
	23-09130-017	BRKT- STANDOFF,.344X.344,ANGLE	1
	23-13974-020	SCREW-TAPPING,HEX FLG,M8X20	1
	23-13482-004	TIE-FIR TREE MT,8.8-9.3MM,SHRT	1
1B LH Single Fuel Tank			
	23-09130-021	BRKT- STANDOFF,.531X.281,OFFSET	1

	23-13974-020	SCREW-TAPPING,HEX FLG,M8X20	1
	23-13482-003	TIE-FIR TREE MTD,7.8-8.0MM,FT8	1
1C Dual Fuel Tanks			
	23-13482-003	TIE-FIR TREE MTD,7.8-8.0MM,FT8	1
2 All configurations			
NOTE: use in place of 23-09130-033 --->	06-09782-000	BRKT-STDF,T,11 GA CS,25.4	1
	23-13482-003	TIE-FIR TREE MTD,7.8-8.0MM,FT8	1
3 All configurations			
	23-13863-000	BRKT-STDF,Z,11 GA CS,31.8	1
	23-13482-004	TIE-FIR TREE MT,8.8-9.3MM,SHRT	1

Legend

Only requires one of parts list

Applies to all applications

Harness Routing 2

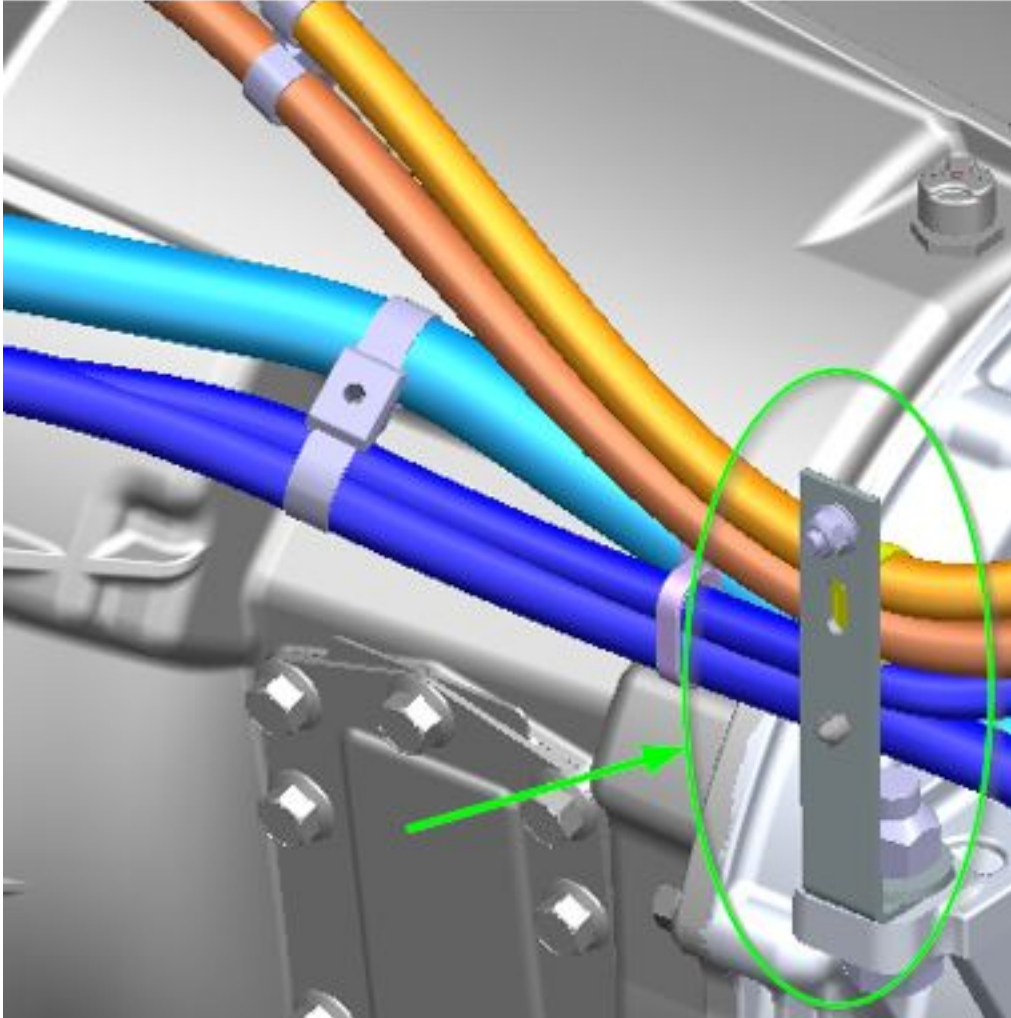
Vehicle Type: 106, 112, 108SD, 114SD

Transmission Type: 3K, 4K

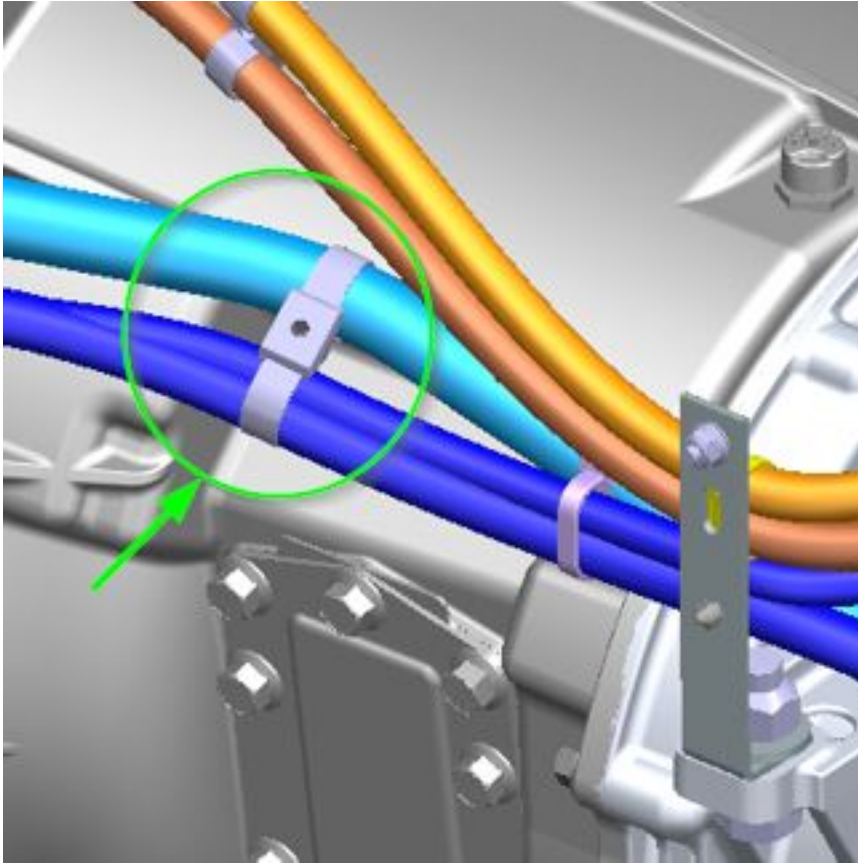
Engine Type: Cum B6.7, Cum L9, Cum X12, DD8, DD13

FOR M2 106, 108SD with DD8, Cum B6.7 or L9 engines:

1. **A) RH single fuel tank:** Route harness together with fuel lines on LH and mount 06-09782-000 with 23-13482-003 on RH.



2. A.1 LH Single Fuel Tank: Route Trans Harness together with the fuel lines using butterfly tie straps (TYC DCT110HIR).

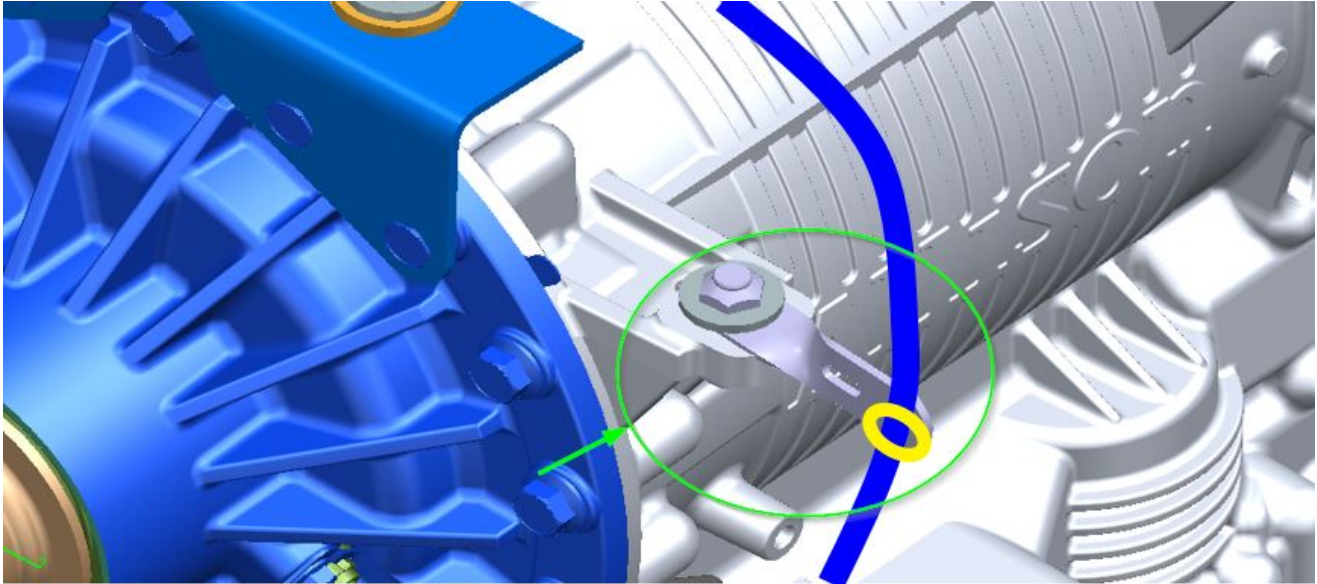


3. A.3) Dual Fuel Tank: Route harness together with the fuel lines and use the fuel line bracket to clip the harness using 23-13335-002 -TIE-MNT,FIR TREE 6.5-7MM,FT7.

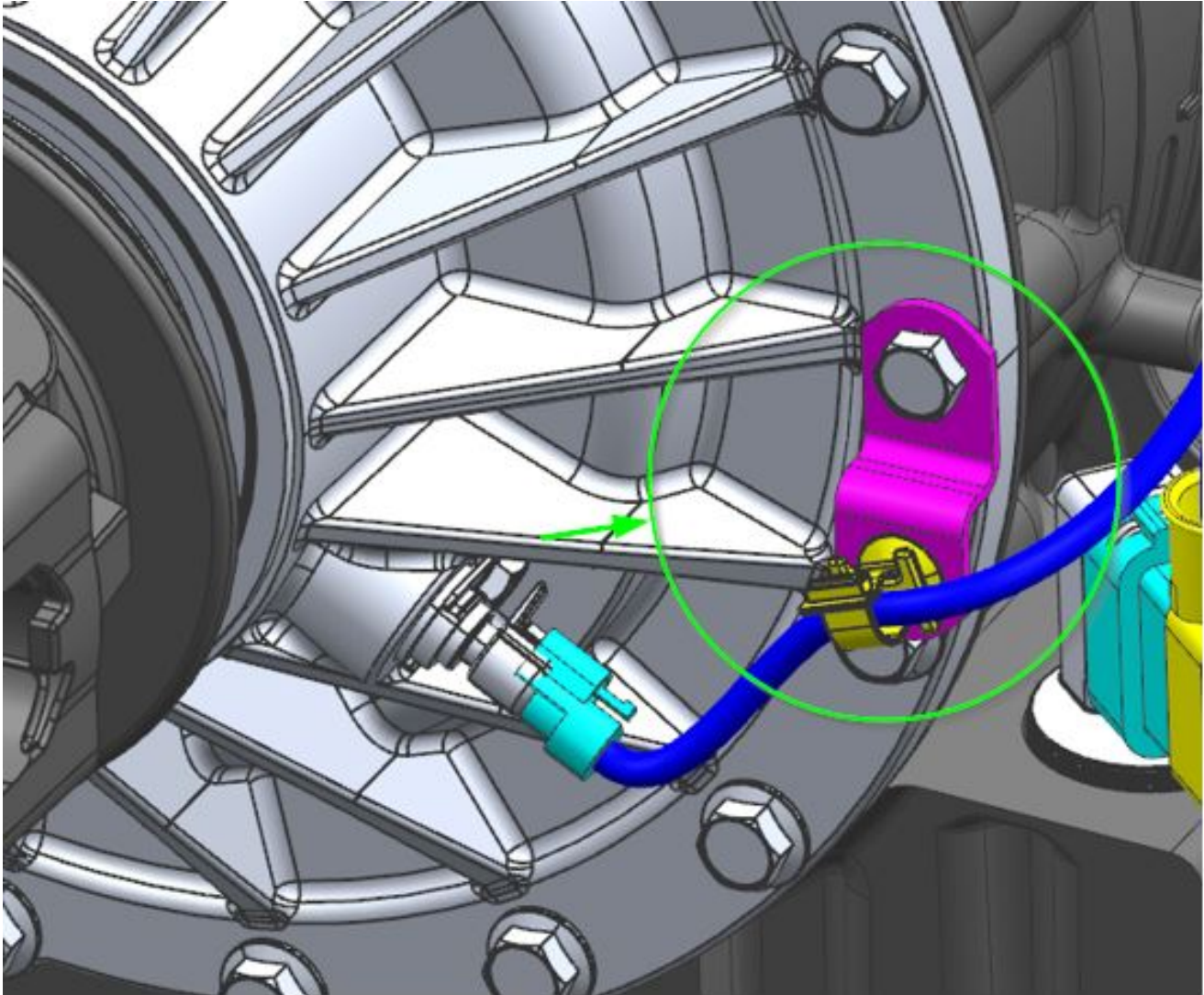
FOR M2 112, 114SD with DD13 and 114SD with X12 engines:

1. A For X12 and DD13 engines: Use the CLNT DEF lines to route the harness with Butterfly Tie Strap TYC DCT110HIR.

2 B On X12 and DD13 engines: Use bracket 23-09130-011, Nut 23-13833-108, washer 23-09114-000 and bolt 23-09440-150 on the Right side of the transmission to route the harness coming down from the CLNT DEF lines. Use 23-13482-003 -tie strap fir tree to clip the transmission harness to the bracket.



2 C For All engines: Use bracket 23-13863-000 on the Rear Front cover of the Transmission housing to move the harness away from screws and sharp edges. Use 23-13482-003 -tie strap fir tree to clip the transmission harness to the bracket.



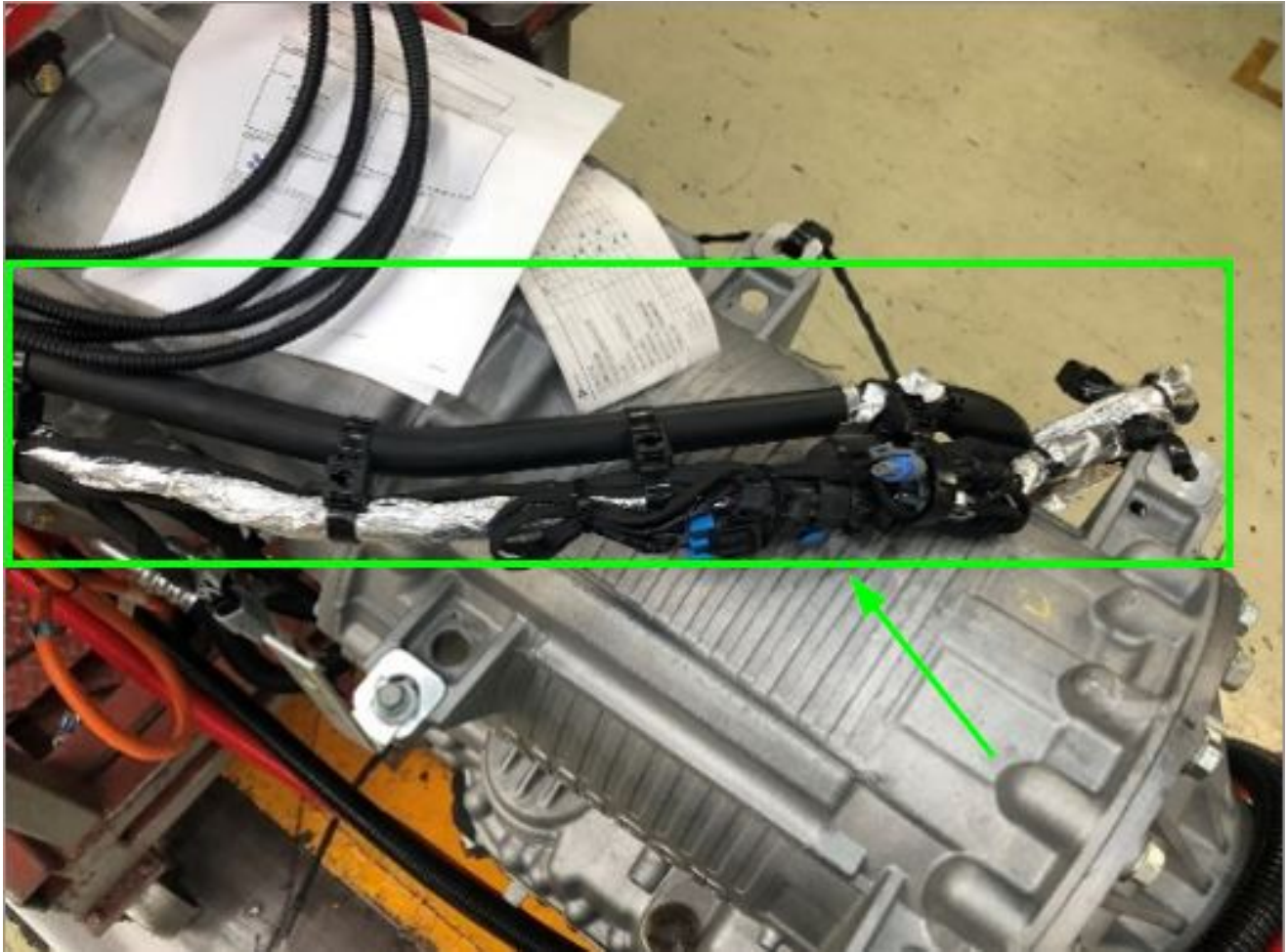
3 General Comments:

3 A If dipstick makes transition from the left to the right side, use it to route the harness with Butterfly Tie Strap TYC DCT110HIR:

- Only for 3K ALSN Transmissions with DD8, B6.7 and L9 engines and DC 346-013.
- Only for 3K ALSN transmissions with X12 Engines.
- All engines with ALSN 4K transmission.

▾ Make harness transition from the engine to the routing the harness together with the dipstick.

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C Use thicker tie straps when to clip the harness when needed. (23-13476-000).

D When harness is clipped directly to the transmission, use Butterfly tie strap TYC DCT110HIR instead of regular Tie Strap.



Note : Parts list not provided for the harness routing 2 because of all of the variations. Pick out parts needed based on applications listed with each picture and step above.