

Authorized Field Change



AFC 16903R1

Date: October 2016

Subject File: Transmission

Subject: ISB Starter

Model: CE Bus

Start Date: 03 October, 2013 End Date: 29 May, 2015

Engine Family: Cummins® ISB

DESCRIPTION

Certain vehicles equipped with Gen 5 Allison Transmission Control Module (TCM) may experience a neutral signal dropout causing the starter to disengage and re-engage into a moving flexplate during cranking events. This condition can occur if the operator performs a rapid key cycle when the engine is cranking.

REASON FOR REVISION

The repair procedure for this AFC has changed. Servicing technicians should review all steps prior to performing AFC procedure.

ELIGIBILITY

This procedure applies ONLY to vehicles marked in the International® Service Portal^{ISM} with Authorized Field Change 16903. Also complete any other open campaigns listed on the Service Portal at this time.

PARTS INFORMATION

Table 1. Parts Information

Part Number	Description	Quantity
2516759C91	CE Bus ISB Starter Harness	1
N/A	Sealant, RTV Silicone Black 3 Ounces	Source Locally

Table 2. 2516759C91 Contains the Following Parts:

Description	Quantity
Harness, I/P Overlay, CE Bus	1
Grommet 3/8 Inch X 27/32 Inch X 5/16 Inch	1
Loom, Convolved Electrical Wire 1/4 Inch I.D. X 0.390 Inch O.D. 1 Foot Long	2

SERVICE PROCEDURE

IMPORTANT: Please reference International® Service PortalSM regarding any possible revisions to this document.

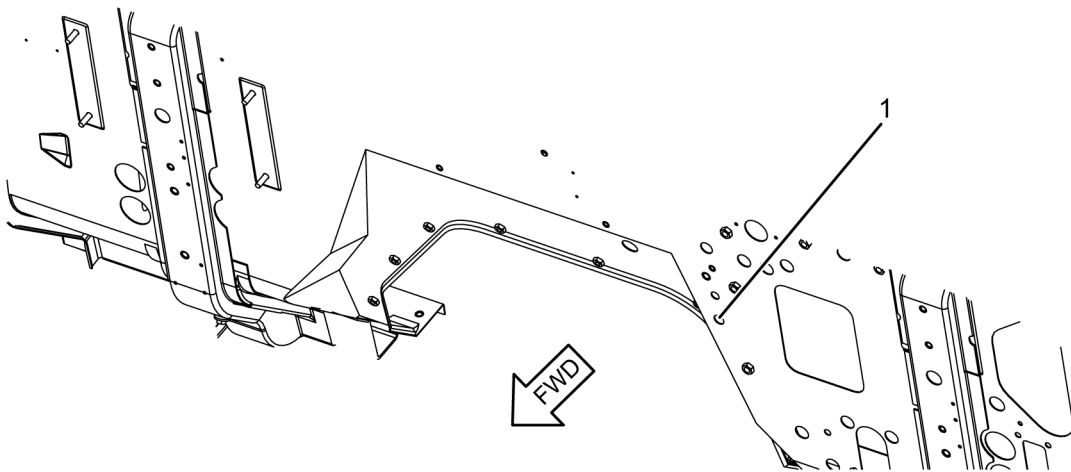
! WARNING: To prevent property damage, personal injury, and / or death, park vehicle on hard flat surface, turn the engine off, set the parking brake, and install wheel chocks to prevent the vehicle from moving in both directions.

! WARNING: To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

! WARNING: To prevent property damage, personal injury, and / or death, keep flames or sparks away from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases.

NOTE: Diamond Logic® Builder (DLB) is required for this service procedure.

1. Park vehicle on a flat surface.
2. Shift transmission to Park or Neutral, and set parking brake.
3. Install wheel chocks.
4. Turn engine to OFF position.
5. Unlatch and open hood.



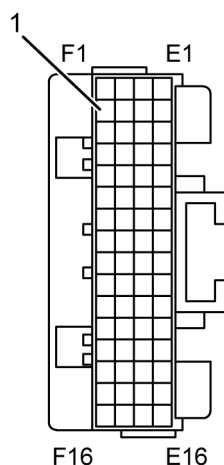
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Figure 1. Engine Compartment – Cowl

1. Plug
6. Working from engine compartment, remove plug (Figure 1, Item 1) from cowl. Clean area around hole.

SERVICE PROCEDURE (CONT.)

7. Install kit-supplied grommet into hole.
8. Connect electronic service tool to vehicle. Open DLB:
 - A. Verify VIN is correct.
 - B. Select FEATURES tab, then select FEATURES sub tab.
 - C. Locate and activate 595BXJ (F2 Bus) feature code.
 - D. Save file and then program ESC.
 - E. Confirm feature code is activated.
9. Disconnect and isolate ground cable from negative terminal located on main vehicle battery.



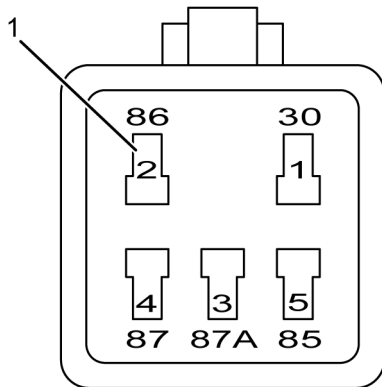
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Figure 2. 1601 Connector

1. Cavity F2

10. Access Body Control Module (BCM).
 11. Locate and disconnect 1601 Connector from BCM.
 12. Unlock connector. Populate kit-supplied harness terminated end into Cavity F2 (Figure 2, Item 1) and lock connector.
 13. Connect BCM connector 1601. Ensure connector is properly secured and connector lock is engaged.
 14. Insert recently populated harness into convoluted loom.
- NOTE: Secure harness away from moving parts or sharp edges.**
15. Route harness from BCM through hole into engine compartment and secure using cable ties.

SERVICE PROCEDURE (CONT.)



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Figure 3. 4009 Relay Connector

1. Cavity 2 / 86

16. Connect ground cable to negative terminal located on main vehicle battery.
17. Locate Transmission Control Module (TCM) neutral switch relay on cowl bracket.
18. Verify circuit K92#141 has 12V power in Neutral / Park only.
19. Disconnect relay. Remove terminal lock from relay composite connector and remove circuit K92#141 located in Cavity 2 / 86 (Figure 3, Item 1).
20. Populate opposite side of kit-supplied harness terminated end into K92#141 located in Cavity 2 / 86. Install terminal lock into relay composite connector and reconnect relay.
21. Using RTV silicone sealant, seal wire pass-through area in engine compartment.
22. Secure harness to existing engine / vehicle harness using cable ties.

NOTE: If the engine does NOT crank, validate previous steps were followed correctly.

23. Crank engine 5 times using ONLY the new BCM circuit. Verify software and hardware are properly installed and functioning properly.

NOTE: Crimp splice connection must be installed using the proper crimping tool. Solder the joint and install heat shrink over the wires and crimp splice.

24. Cut terminal end from previously removed K92#141 circuit harness and install crimp splice.
25. Disconnect 1601 Connector from BCM.

NOTE: If the engine does NOT crank, validate previous steps were followed correctly.

26. Crank engine 5 times using ONLY the new TCM hardwired circuit. Verify software and hardware are properly installed and functioning properly.

SERVICE PROCEDURE (CONT.)

27. Connect BCM connector 1601. Ensure connector is properly secured and connector lock is engaged.
28. Clear any generated DTCs.
29. Close and latch hood.
30. Remove wheel chocks.

LABOR INFORMATION

Operation number must appear on all claims.

Table 3. Labor Information

Operation No.	Description	Time
A40-16903-1	Install Starter Overlay Harness	0.8 hr

ADMINISTRATIVE PROCEDURE

Expense is to be charged to Warranty. Claims are to be submitted in the normal manner, making reference to Authorized Field Change Number 16903.

Section 7 of the Warranty Policy and Procedures Manual contains further information related to the submission and processing of AFC / Recall claims.

To ensure this important improvement is made in a timely manner, all claims for 16903 activity must be submitted by 31 October 2017 or within the normal warranty period for the vehicle, if after 31 October 2017.

	GROUP	NOUN	C	WARR.	TP	PAD
GROUP — Enter number						
NOUN — Leave blank						
C (CAUSE) — Enter either 1, 2, 3. (See below)						
1. Inspected (No repair required).						
2. Inspected and repaired.						
3. Defective part from parts stock.						
WARRANTY — (Warranty Code) Enter 40.						
TYPE PART — Enter P for type part causing failure.						
PAD — Enter 100						

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