

DTNA Solutions > Service Solutions > Freightliner
> SS 3078-FTL2021 New Cascadia No Start and or Stalk...

SS 3078-FTL2021 New Cascadia No Start and or Stalk Switch Shift Lever Right Active Fault(s)

Applicable Vehicles

The solution applies to New Cascadia vehicles built from 1/1/2020 with Detroit Engines and DT12 transmissions.

Symptoms

No engine crank and or fault codes 0/521006/14 and 33/520848/31 being active.

Issue

New Cascadia vehicles built since 1/1/2020, have seen an increase of the stalk switch lever right being replaced. Stalk switches returned for testing, have tested good. In most of the warranty claims filed for stalk switch right replacement, both of the fault codes below appear to be present. Stalk switch lever right controls both shifting and engine brake functions. Engine not cranking, can occur if neutral signal is not detected from the transmission.

- **CPC5 SA 0 SPN 521006 FMI 14**—CPC shift Stalk Lever Position Not Plausible – Note: current troubleshooting for this code states to replace the stalk switch. Efforts to update the troubleshooting for this code, to provide better guidance, are being made.
- **sSAM SA 33 SPN 520848 FMI 31**—SSAM Stalk Switch Right Error – This code generates if one of the three conditions exist.
 - 1. Faulty wire/harness.
 - 2. Faulty or corroded connector
 - 3. Stalk Switch Right device failure

While continuing to investigate root cause(s), several factors can attribute to the fault codes listed above becoming active. It is always important to look at all fault codes prior to troubleshooting any system.

In investigating reported issues from the field, there appears to be three separate conditions that can attribute to the fault codes listed above becoming active.

1. If other fault codes such as the following are also active, they can be an indication of a failed sub-bus and should be trouble shot first, as they are most likely the root cause.
 1. sSAM 33/520880/13-subbus switch missing (if all switch are missing, this is an indication that subbus is not communicating).
 2. MPC 127/524049/19—DTC Camera MSF Data Error (code generates when the MPC cannot see the turn signal switch or LDW switch)
2. sSAM requires a good power and ground connection to function properly. If power or ground connections is compromised, or voltage drops occur between the sSAM and the power and ground sources, then sSAM function can be affected.
3. Faulty wire / harness and or poor connections of wiring going to the stalk switch right. Typically, when this occurs both left and right stalk switches do not function. There is always a chance that a failed right stalk switch could be the failure, but typically, when this occurs only the right stalk switch does not function.

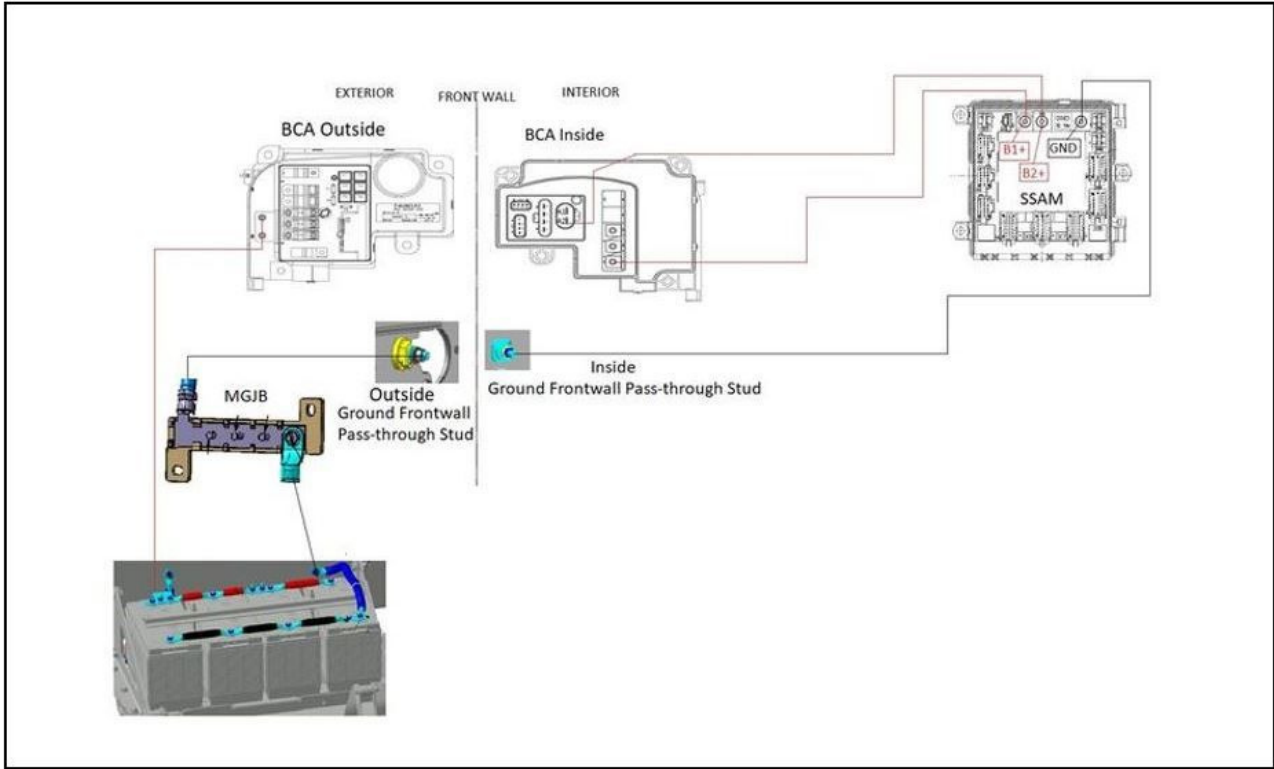
Reports from the field also state that sometimes the codes is eliminated by just cycling the ignition switch off and letting all of the modules go to sleep and then powering the ignition back on. In other cases, vehicles with disconnect switches are cycled off for about 15 seconds and then turned back on while the ignition is off and this too appears to clear the codes. Customers have performed these actions to get vehicles going when a no crank condition occurs and the two codes are active. In many cases, the field also reports that after performing the actions above, the codes do not return. The solution below provides guidance, in hopes of eliminating all of the above conditions and codes.

Solution

When troubleshooting for a “no crank” condition and or fault codes 0/521006/14 and 33/520848/31 are active, first check and see if any other codes are active.

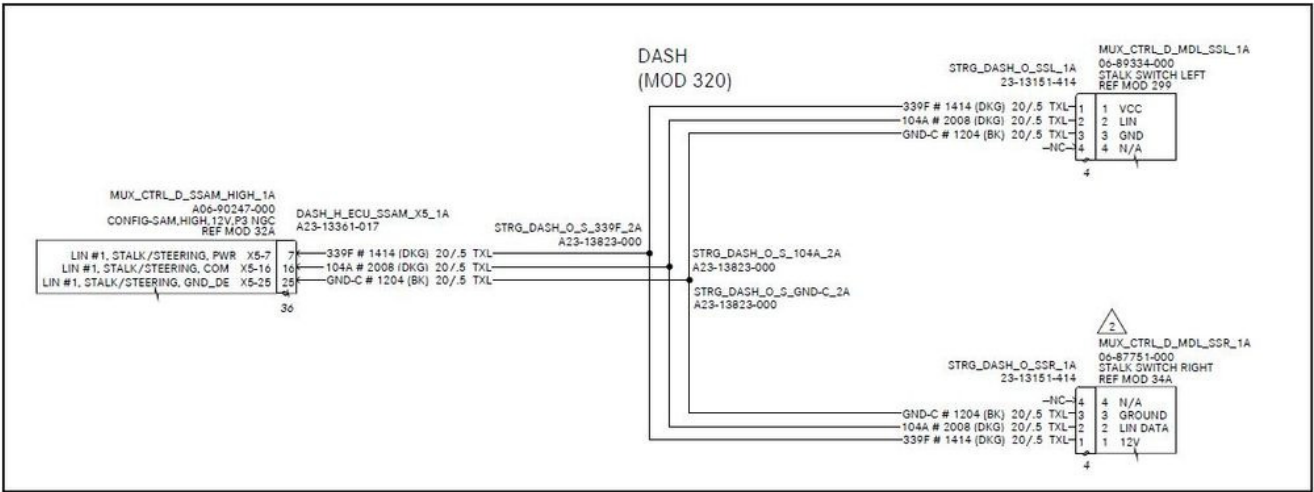
1. If fault codes 33/520880/13 is active and when accessing the MSF Subbus switches template all of the subbus switches are showing missing, then that is a good indication that the problem is related to the subbus or a subbus switch. This condition would result in all subbus switches not functioning and the two fault codes 0/521006/14 and 33/520848/31 becoming active. Several conditions can attribute to this kind of failure.
 1. Metallic material from drilling or cutting of panels when aftermarket systems are added
 2. Poor connections or failed switches
 3. Subbus wires being pinched, chaffed and or shorted

The figure below is a reference of the power supply path to the SSAM. Reference the figure when tracing out voltage drops if needed.



3. Faulty wire / harness and or poor connections of wiring going to the stalk switch right can also result in fault codes 0/521006/14 and 33/520848/31 becoming active. Typically, when this occurs both left and right stalk switches do not function. Below is the LIN wiring for stalk switches. If only these codes are active then insure the wiring between the sSAM and the stalk switch has continuity and no shorts and open are present. Also validate that power and ground is present at the stalk switches. If all of the wiring and connections are good and only the right stalk switch is still not functioning, then the right stalk switch has most likely failed.

Lin wiring example for stalk switch (per S/N schematic from module 54C should be used for troubleshooting)



Labels :

- Electrical
- New Cascadia

Add tags

5 Kudos

Comment