

SS 730 - WST 2022 New CPC5 Functionality Differences

Applicable Vehicles

All WST 47x and 49x trucks built after February 21, 2022 with a Detroit engine. Affected vehicles were built with one of the following CPC5 part numbers:

- A 055 446 40 02 (version 20.4)
- A 055 446 48 02 (version 20.5)

This solution does not apply to legacy WST vehicles.

Symptoms

Repeated replacement of CPC5 part number A 055 446 40 02 or A 055 446 48 02 on 47x or 49x equipped with Detroit engines, with failure affecting:

1. Accelerator Pedal Position #1 or #2 sensor common circuit
2. Ambient Air Temperature sensor common circuit
3. Vehicle Speed Sensor sensor common circuit (very low usage option)

A short-to-battery in the wiring of any of these 4 sensor common pins can cause the fuse to open. When any of these fuses opens, the CPC5 will not read the sensor input correctly.

Issue

Shortages of a circuit protection ASIC (application-specific integrated circuit) have forced a new hardware version of the CPC5. To date, part numbers A 055 446 40 02 and A 055 446 48 02 have been released for production and service.

The new hardware uses non-resettable, non-replaceable fuses instead of the circuit protection ASIC for protecting four sensor common pins on the CPC5 module. The pins that are impacted are:

1. VSS Sensor Common at connector ENG_CTRL_DASH_O_ECU_CPC5_3A pin 22
2. Ambient Air Temperature Sensor Common at connector ENG_CTRL_DASH_O_ECU_CPC5_3A pin 35
3. Accelerator Pedal Position #1 Sensor Common at connector ENG_CTRL_DASH_O_ECU_CPC5_3A pin 29
4. Accelerator Pedal Position #2 Sensor Common at connector ENG_CTRL_DASH_O_ECU_CPC5_3A pin 43

Note that specific harness drawings will vary from vehicle to vehicle.

A short-circuit to battery voltage condition in wiring to the CPC5 *may* result in one of these fuses opening. If wiring issues are not isolated and corrected, multiple CPC5 modules may be used before a vehicle is repaired.

At present, the new CPC5 part number is slated to replace all earlier versions of CPC5 for vehicle repair.

Solution

When a vehicle with either the A 055 446 40 02 *or* A 055 446 48 02 CPC5 is diagnosed for a problem with input or output pins, it is vital to ensure that there are short-to-power conditions on the four Sensor Common pins noted above *before* replacing the CPC5. Failure to check for wiring issues may result in replacement of multiple CPC5 modules.

When practical, test the vehicle with an earlier CPC5 controller. P/N A 055 446 35 02 contains the ASIC chip and is suitable for use in testing.

NOTE: new versions of the CPC5 may be released in the future. Additional part numbers that are affected will be posted to the comments of this Service Solution as they become known.

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49X

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