Stoneridge

SERVICE INFORMATION LETTER 24_007C

Recipients :	All Markets
Release date :	December 16th, 2024
Update Purpose :	Added Enforcers guidelines
Object :	SE5000 Smart 2, Event !0D, Absence of GNSS signal for 3h of driving time

It has come to our attention that clarification of the !0D Event in the SE5000 Smart 2 vehicle unit is requested. The !0D Event is set in the vehicle unit if the GNSS signal is lost for a total of 3 hours of cumulated driving time. This service information letter explains how to handle cases of !0D Event.

Event !0D definition in Annex 1C:

- 2.70 EventFaultType -> Event !0D, Absence of position information from GNSS receiver
- 3.9.10 'Absence of position information from GNSS receiver' event - This event shall be triggered, while not in calibration mode, in case of absence of position information originating from the GNSS receiver (whether internal or external) for more than three hours of accumulated driving time.

It is an **Event**, not a Fault. It tells the fleet that the tachograph must be checked at next inspection. Our workshop manual reads as follow:

!0D	002C80	Absence of position from GNSS	No GNSS position data over 3h cumulated driving time	Check that GNSS signal can be received. Remove any device or shield in proximity of the tachograph able to stop or reduce the correct reception of the GNSS signal.

Root cause of event:

If Event !0D clears at ignition ON after a period of REST, it can be related to an issue in SWID 1214, fixed in SWID 1619.

But events continuing after a period of SLEEP of the tachograph, despite a new Ignition ON, originate from GNSS signal interferences in the cabin. Please follow next page workshop guidelines to address this.

Enforcers guidelines:

A !0D Event does not prove any tampering attempt. However, it will prevent the tachograph auto-registration of ***Border crossing***. So, trucks must visit their workshop for next page guidelines to be followed.

When an event **!0D** is present without an associated **!0F** event, it most likely is **not** a tampering attempt. Enforcers should therefore focus on days for which the 2 events are logged together.

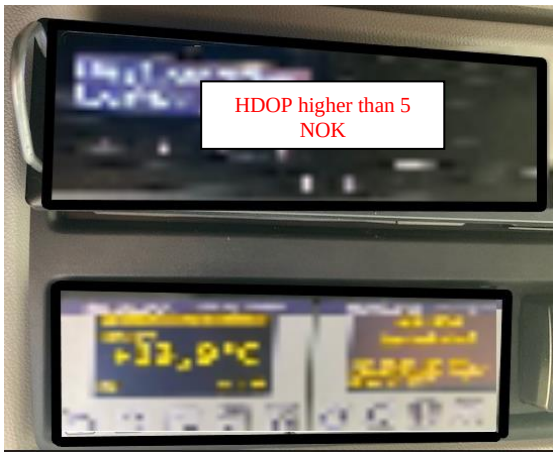
Also, if the driver manually inserted ***Start & End country*** positions showing he crossed borders, that is a clear proof that he is not attempting to hide-away his position; in which case the !0D event must be a genuine cabin interference.

Workshop guidelines for handling !0D Events:

When confronted to repetitive !0D events, workshop technicians must investigate which ECU in the cabin may be interfering with the GNSS signal. Reports have pointed so far to a variety of interfering units, such as:

- Tolling devices,
- Telematic units,
- WLAN routers in Busses,
- Radios, Microwave, etc…
- But also ECUs with no active GSM/BT/Wifi transmission, as illustrated in below case:

Good GNSS reception



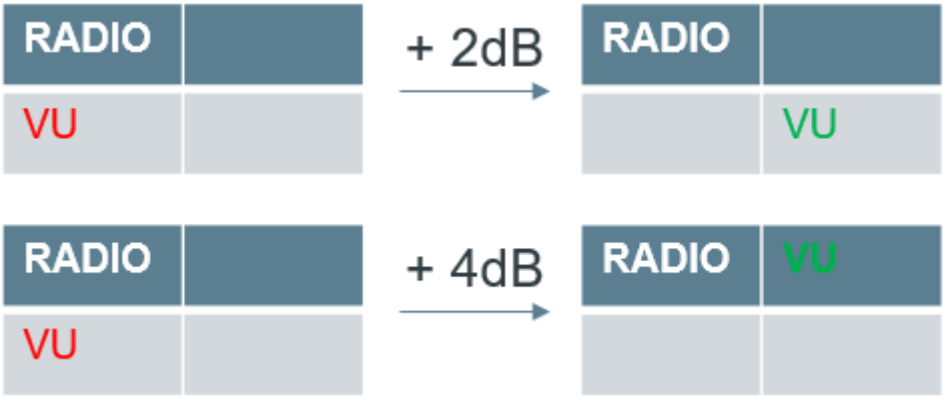
Poor GNSS reception

If an Active transmitting ECU is identified as the rootcause of the GNSS interferences:

- First, try to relocate the interfering unit,
- If not possible, please ask the manufacturer of this interfering unit whether an external GSM/Wifi antenna can be used. Install the antenna and its cable away from the tachograph.

If cables are routed behind the tachograph, they must be pushed back and secured as far off the tachograph as possible, especially coaxial cables.

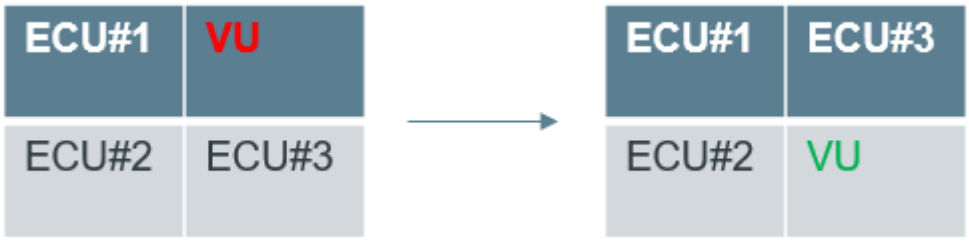
The internal GNSS Antenna is at the bottom right hand-side of the Tachograph casing. So, optimal installation for the tachograph is in the right-hand side of the upper shelf:



Important note: if any slot around the tachograph is left empty, the GNSS reception can be further improved by removing the metalic sleeve from the empty DIN slots.

Note: Avoid placing metal items less than 8 cm away from Tachograph bottom right edge.

As described in the initial release of this document, dated June 15, 2024, if the 4 slots are populated, the optimal position for the Tachograph is the bottom right-hand side of the upper shelf:



… which you can visualize in the truck as:

Note: if ECUs must be relocated, this may require seal removal from non-legal units, such as a Toll device. In which case, document this in the investigation report. Cable service loops must be long enough to allow re-locating the ECU without rework; if not, contact the original installer for instructions.

For Workshop Technician to evaluate the improvement obtained, insert card in drawer 1 and compare the number of satellites seen by the tachograph in both locations, via Optimo **MKIII** Application, ***Read & Modify***: