

Crash Detection Report

Structured Report: Crash Detection Analysis

Crash Likelihood: Low

The provided OBD data does not indicate any sudden or extreme changes in vehicle dynamics, such as abrupt deceleration, sudden changes in throttle position, or unusual engine behavior, which are typical indicators of a crash. The data shows a gradual increase in speed, RPM, and acceleration, suggesting normal driving conditions.

Detected Anomalies

1. Negative Instant Fuel Consumption:

- Starting at `10:35.5`, the "Calculated instant fuel consumption (km/L)" values become negative, which is physically impossible. This could indicate a sensor malfunction or data corruption.

2. High Engine RPM and Speed:

- The engine RPM reaches up to `29,500 rpm` and the vehicle speed goes up to `570 km/h`, which are unrealistic values for most vehicles. This suggests potential data inaccuracies or sensor errors.

3. Unrealistic Acceleration:

- The "Vehicle acceleration (g)" values increase steadily up to `5.6 g`, which is extremely high and not typical for normal driving conditions. This could indicate a sensor issue or data corruption.

4. Constant Throttle Position:

- The throttle position remains at `100%` throughout the dataset, which is unusual for normal driving scenarios. This could indicate a stuck throttle sensor or data anomaly.

Possible Causes

1. Sensor Malfunction:

- The anomalies in fuel consumption, RPM, speed, and acceleration could be due to faulty sensors or data transmission errors.

2. Data Corruption:

- The unrealistic values (e.g., negative fuel consumption, extremely high RPM and speed) suggest potential corruption in the OBD data logging or transmission process.

3. Throttle Sensor Issue:

- The constant throttle position at `100%` could indicate a stuck or malfunctioning throttle position sensor.

4. Software Glitch:

- The anomalies might be caused by a software bug in the OBD system or the data logging software.

Recommendations

1. Inspect Sensors:

- Check the throttle position sensor, fuel consumption sensor, RPM sensor, and speed sensor for malfunctions or physical damage.

2. Verify Data Logging System:

- Ensure the OBD data logging system is functioning correctly and that there are no issues

with data transmission or storage.

3. Calibrate Sensors:

- Recalibrate or replace any sensors that are providing unrealistic or inconsistent data.

4. Update Software:

- If the issue persists, update the OBD system firmware or software to the latest version to address potential bugs.

5. Monitor Driving Behavior:

- While the data suggests no crash, monitor driving behavior for any signs of aggressive driving or mechanical issues that could lead to unsafe conditions.

6. Consult a Professional:

- If the anomalies cannot be resolved, consult a professional mechanic or OBD system specialist to diagnose and fix the issue.

This analysis concludes that the likelihood of a crash is low, but the data contains significant anomalies that require further investigation to ensure vehicle safety and proper system

functionality.