Accident Data Reconstruction
Accident Reconstruction: Overview

+ How to find the necessary data to digitally reconstruct an accident
+ What the data means and how to interpret it
+ How to view the accident on the map
Why is Accident Data important?

+ Understand what the driver was doing
+ What actually happened to the vehicle
+ Very important with court cases, and insurance
Introduction

The GO device will detect an “accident level event” when a vehicle collision occurs and the accelerometer threshold exceeds 2.5G (front or back, or side to side)

During this “event” the GO device will record second-by-second data of the accident at 100 Hz frequency.

- This data is automatically transmitted to MyGeotab for interpretation.
What types of data are sent during an Accident Level Event?

What exactly is sent?

The main sets of data sent are:
+ Latitude, longitude
+ Speed
+ Accelerometer

Other sets of data normally recorded, such as Engine Data, Auxiliary information etc. can be used in conjunction with this data to reconstruct the accident
How do I interpret Accident Data?

There are various tools available within MyGeotab that can be used to interpret the raw data from the device.

In this document we will review these different tools.

For illustration purposes, the information below comes from reconstruction of a real accident:

**Case Study: Front end Collision**
Accident Reconstruction: Key Reports

+ Trips History
+ Accident and Log Data
+ Engine Measurements
+ Speed Profile
+ Exception Report
Case Study: Front End Collision

**Step 1: View on Map**

The first step to reconstructing accident data is to view the accident in the vehicle’s trips history. This can be done by clicking on Map > Trips History: report

+ Specify the vehicle, and choose the date and the time of the accident.
Case Study: Front End Collision

Step 2: Log data

The Log Details and Accidents report (Drivers and Activity > View Accidents and Log Data) shows the individual logs as they are reported by the device.

Look for the timestamp of the ‘accident level detection’

Note that, by default, accident level detection occurs whenever the GO device accelerometer reading exceeds 2.5 G in any direction.
Case Study: Front End Collision

Understanding Accelerometer Data

There are two types of Accelerometer Data:

1) ‘Acceleration Side to Side’:
   a) **Negative** values represent acceleration to the **right**
   b) **Positive** values represent acceleration to the **left**

1) ‘Acceleration forward or braking’
   a) **Positive** value represents **forward** acceleration
   b) **Negative** represents **backwards** acceleration
Case Study: Front End Collision

Step 3: Accelerometer Graph

The accelerometer graph is a useful tool that can be used to determine the direction from which the vehicle was hit and the relative force exerted in each direction due to the collision.

This information is available by going to Engine & Maintenance > Engine Data > Engine Measurements.
Case Study: Front End Collision

Speed Profile

The Speed Profile is a great tool that shows vehicle speed vs. time.
- This can be used to accurately determine the speed of the vehicle in question at the time of the accident.

This can be done by clicking on Activity> Speed Profile.

Below is the Speed Profile of the vehicle before, during, and after the accident.
Case Study: Front End Collision

RPM

The RPM is important in determining if the driver attempted to avoid the accident

Engine RPM can supplement information in the ‘Speed Profile’.
Use the **Exceptions** report to find the exact Accelerometer value that broke the threshold (2.5G = 25m/s²)
Conclusion

+ Driver was speeding (Driving above speed limit)
+ Driver was overrevving the Engine
+ Did attempt to avoid the accident (we see both Braking and turning towards the right to avoid the accident)
+ There were some fault codes that came up after the accident
Our Offices

Corporate Headquarters
Geotab Inc.
1081 South Service Road West
Oakville, Ontario
L6L 6K3, Canada
Tel: +1.416.434.4309
www.geotab.com

International Offices
Geotab USA, Inc.
1802 Alafaya Trail
Orlando, Florida, 32826

Geotab GmbH
Grosjeanstraße 2, 81925 München

Let’s Stay Connected:

/social/mygeotab
/twitter/geotab
/gplus/geotab
/youtube/mygeotab
/linkedin/company/geotab