

# Application

## Calculating G-force from accelerometer data

Geotab accelerometers measure distance over time (gravitational force) in meters per second squared in three dimensions. We use sharp changes in accelerometer data to infer vehicle events such as harsh cornering. This data can be found by going to Engine & Maintenance > Engine and Device... > Options > Acceleration side to side under Diagnostics A harsh cornering rule can be set to trigger on different thresholds. Any number can be used for a custom rule, but we offer three general options in the stock rule: Passenger Car, Truck/Cube Van, and Heavy-Duty. The actual calculation uses floating point precision (approximately 7 decimal digits), where  $1G = 9.8m/s^2$  and  $1m/s^2 = 0.101972G$ . Ex:  $43 m/s^2$  is  $4.384796 G$ .  $43 m/s / 9.8 m/s = 4.38 G$

[Geotab Blog](#)

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