Commonly found g levels

Table 1. Estimates of g levels

g Level Application

0.61 Automobile, 0-60, 4.5 seconds

0.75 Automobile braking

1 Strong earthquate

1.8 Steep climb in Airbus A-300

2 Commercial appliance control

2 Kill sperm whale

3 Indy car on turn

3 Space shuttle taking off

3 Sneeze

3.3 Fuel dragster

3.5 Cough

4 Slap on Back

4.5 Titan Roller Coaster, 4 Flags, Texas

5 NASCAR vehicle on turn

6 Humans black out

9 Rocket dragster

10 Flutter testing - aircraft

10 Car crash that will break human bones

15 Jet aircraft ejection seat

19 Tiger Woods estimated golf swing

30 Break ribs when held by seat belt

33 When parachute opens

35 NASCAR vehicle hitting the wall

50 16 oz boxing glove punch

85 Estimated g's in Princess Diana's crash

100 6 oz boxing glove punch

100 Karate chop to the head

100 Under vehicle road testing

150 Jump of a flea

246 4 foot drop on grass football field

300 Foot hitting a soccer ball

300 Helmet testing

1000 Automotive impact testing

2000 Crash test dummies

2400 Dogwood flower releasing pollen

3000 Baseball struck by a bat

8000 Matis shrimp striking appendage

20000 Smart, gun-fired projectiles

60000 Explosions

The engineering unit used to measure acceleration is "g". 1 g is equivalent to 32.1741 ft/sec². An accelerometer

with a range of ± 10 g's will measure acceleration from -321.7405 ft/sec² to +321.7405 ft/sec². The value of 1 g is also expressed in other units such as inches (386.0885 in/ sec²) and meters (9.8057 m/ sec²).

Varying g levels are part of one's everyday life, whether accelerating in a car, taking off in an airplane, sneezing or riding a roller coaster.

We often do not know how much the g level is – but we certainly feel it.

Left (Table 1) are estimates of commonly found g levels in everyday life and in well-known applications.

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