[testing, testing]

Landsberg, Germany: technicians prepare the car-seat testing rig for one of 82 simulated frontal crashes

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At 40 miles per hour, it takes 0.15 seconds for the body of a car to absorb the impact of a crash and come to a stop. Just 0.09 seconds after it hits, the vehicle is slowing so rapidly that the decelerative effect is equivalent to 38 times the force of gravity. And those are exactly the conditions we recreate to test child car seats.

We collect information about the forces involved from EuroNCAP's car-crash tests (Which? is a founding member of EuroNCAP). Then we simulate those forces on a computer-controlled hydraulic sled. It violently slows a real car chassis – a VW Golf, if you're interested – and we measure the damage to crash-test dummies. The dummies are various weights and sizes to cover the age ranges suitable for each seat.

It's a sobering experience to see how poorly some of the seats react to these forces – make sure you choose a Best Buy seat for your child.