Software Disasters

Gimli Glider

From Wikipedia, the free encyclopedia

The Gimli Glider aircraft taxiing at San Francisco International Airport in 1985

Air Canada Flight 143 was a Canadian scheduled domestic passenger flight between Montreal and Edmonton that ran out of fuel on July 23, 1983, at an altitude of 41,000 feet (12,000 m), midway through the flight. The Boeing 767 glided to an emergency landing at a former Royal Canadian Air Force base in Gimli, Manitoba, that had been turned into a motor racing track. This unusual aviation incident earned the aircraft the nickname "**Gimli Glider**".[1]

The subsequent investigation revealed that a combination of company failures, human errors and confusion over unit measures had led to the aircraft being refuelled with insufficient fuel for the planned flight.

https://en.wikipedia.org/wiki/Gimli_Glider

At the time of the incident, Canada's aviation sector was in the process of converting to the metric system. As part of this process, the new 767s being acquired by Air Canada were the first to be calibrated for metric units (litres and kilograms) instead of Imperial units (gallons and pounds). All other aircraft of the company were still operating with Imperial units. For the trip to Edmonton, the pilot calculated a fuel requirement of 22,300 kilograms (49,200 lb). A floatstick check indicated that there were 7,682 litres (1,690 imp gal; 2,029 US gal) already in the tanks. To calculate how much more fuel had to be added, the crew needed to convert the volume (litres) in the tanks to a mass (kilograms), subtract that figure from 22,300 kg and convert the result back into a volume. In previous times, this task would have been completed by a flight engineer, but the 767 was the first of a new generation of airliners that flew with only a pilot and co-pilot.

The volume of jet fuel varies with temperature. In this case, the mass of a litre of fuel was 0.803 kg, so the correct calculation was:

> 7,682 litres × 0.803 kg/L = 6,169 kg = mass of fuel already on board
> 22,300 kg − 6,169 kg = 16,131 kg = mass of additional fuel required, or
> 16,131 kg ÷ (0.803 kg/L) = 20,088 litres = volume of additional fuel required

X-Plane 11 - 'The Gimli Glider' - Reconstruction of Air Canada Flight 143 1983 138,096 views •Jan 11, 2017

https://www.youtube.com/watch?v=oKbpR28l9xM

Coding Error Sends 2019 Subaru Ascents to the Car Crusher

Misprogrammed robots produced SUVs without spot welds—a mistake that could lead to injuries in a crash

https://spectrum.ieee.org/riskfactor/computing/it/coding-error-leads-293-subaru-ascents-to-the-car-crusher

The Biggest IT Failures of 2018

Technical mishaps occurred in trains, planes, automobiles, and many more places

Fiat Chrysler recalled 5.3 million multiple car models for a cruise control issue, while GM recalled one million pickups and SUVs to fix a steering problem. Toyota recalled 2.8 million hybrids, Subaru recalled 640,000 of its vehicles, and Fiat Chrysler recalled 154,000 minivans, each for stalling-related problems. Software fixes were announced as remedies for all of them.

In addition, a coding error with the spot-welding robots at Subaru's Indiana Automotive plant in Lafayette, Ind., meant 293 of its new Subaru Ascents had to be sent to the car crusher. A similar problem is suspected as the reason behind the welding problems affecting the steering on Fiat Chrysler Jeep Wranglers.

https://spectrum.ieee.org/riskfactor/computing/it/it-failures-2018-all-the-old-familiar-faces

Volvo plows into pedestrians during safety demo   Human Error?
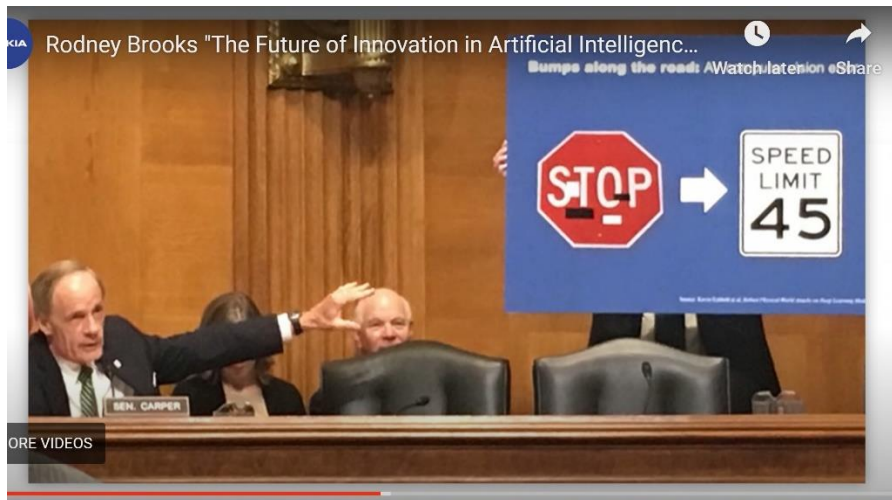
https://www.youtube.com/watch?v=WbW2UgmjJUA

Altered patterns that covered the whole sign led to it being misread as a speed limit sign 100 per cent of the time, while fake graffiti worked two-thirds of the time. The apparently random tape (right, above), which the researchers called an "abstract art sticker attack," worked 100 per cent of the time. It was actually made with a stencil, with paint patterns made to appear like tape; the change of pattern led the car's camera to decide that it was a 45-mile-an-hour (72 km/h) speed limit sign, leading to the possibility that the car might accelerate to that speed before stopping.

https://globalnews.ca/news/3654164/altered-stop-signs-fool-self-driving_cars/

Rodney Brooks "The Future of Innovation in Artificial Intelligence and Robotics"   1:48:04

https://www.bell-labs.com/var/articles/rodney-brooks-future-innovation-artificial-intelligence-and-robotics/

SENATE HEARING!!