Nearly 2.6 Million General Motors Vehicles Recalled, Costs Soar to $1.3 Billion

Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

**Problem**

What(s)

Faulty part in ignition switches, car crashes, 13 fatalities

When

2005-2007

What did it happen?

Models impacted used same design of switch indent plunger

Where

GM manufacturing sites

Chevrolet Cobalts and Pontiac G5s from the 2006 through 2007 model years, Saturn Ion compacts from 2003 through 2007; and Chevrolet HHR SUVs, and Pontiac Solstice and Saturn Sky sports cars from 2006 and 2007

Task being performed

Driving car

Impact to the Goals

Safety

13 fatalities

Customer Service

Negative publicity

Regulatory

Potential for GM to be found criminally liable

Property

Nearly 2.6 million cars recalled

**Analysis**

Step 1. Problem

What's the Problem?

13 fatalities

Step 2. Analysis

Why did it happen?

Switch indent plunger failed to hold the position

Step 3. Solutions

What will be done?

Power steering, power brakes didn't work in "accessory" position

**Cause Mapping**

Problem

Car accidents

13 fatalities

Effect

Increased likelihood of injuring during accidents

Cause

Switch indent plunger failed to hold the position

Evidence: Design of the cars.

Evidence: Ignition switch slipped from "run" position to "accessory" position

Power steering, power brakes stopped working

Evidence: Documentation provided by GM as well as official statements.

Evidence: There is an ongoing investigation to determine exactly what lead to faulty ignition switches being installed into cars.

Faulty switch indent plunger was installed in car

Evidence: GM has determined that it has been responsible for 13 deaths. Other groups claim the number may be even higher.

Problem found, but not fixed?

Yes

Test program failed to find design problems?

Yes

Heavy key ring, hanging off key

Car jarred by bumpy road

AND

AND

Evidence: There is an ongoing investigation to determine exactly what lead to faulty ignition switches being installed into cars.

Faulty part was redesigned in 2006

Evidence: Investigation is ongoing. GM claims it did not knowingly put drivers at risk.

New part did not get a new part number

Standard procedure wasn't followed

?