

Understanding Engineers

General opinions by Bill Devenish

The key to understanding engineers is observing their approach to problem solving.

Prior to the introduction of the Dilbert comic strip by Scott Adams there was a cartoonist by the name of Rube Goldberg who graphically characterized the approach that some engineers take to problem solving. While Dilbert highlights the absurdity of office politics within engineering companies, Rube Goldberg illustrated the tendency of engineers to turn a simple solution into a highly complex series of interdependencies. Sometimes engineers can over complicate the simplest of solutions.

At the other extreme, engineers often follow the product simplification goal of DFMA by approaching problem solving through the application of basic engineering fundamentals. To achieve these simple solutions, engineers have developed the ability to view problems with emotional detachment. They break problems down to their simplest form, placing the pieces into neat little compartmentalized categories. Engineers then view the cold, hard facts and weigh the variables to reach a streamlined conclusion.

Engineers also have a unique sense for observing technical details that are missed by others. Their focus remains unwavering while chaos swirls around them. In the end, they state the obvious, which had previously been unknown to others.

Creativity and inventiveness are sometimes synonymous with the description of Engineers. Occasionally they are motivated by self-interest, although most of the time their motivation comes from the desire to continuously improve and achieve technical perfection. This drive to perfection is sometimes at the risk of their own safety and comfort.

Engineers are inspired through unconventional means. For instance, a group of engineers in the 60's recognized that a patent submitted by the famous actress Hedy Lamarr in the early 40's would lead to secure wireless communication using a technique she had invented known as frequency hopping. As a result we now have the proliferation of cellphones, Wi-Fi and Bluetooth.

Recently, it has been observed that millennial engineers tend to have short attention spans. This may be a result of their maturation during an age when learning, and the accumulation of knowledge, was gained through video interactions. Therefore, reaching and motivating this new generation of engineers requires that information be condensed and distributed in small, short, audio-visual bursts.

Finally, if you want to drive an engineer crazy, give them conflicting requirements and watch a type of office road rage occur. Then sit back and observe how they solve the problem.