



# Quality: The Touching Tale of Haptics



Let's be honest. In a car, it's all about touching. It's about grasping the steering wheel, turning a dial, settling into a seat. Ford has studied the qualities that make people sense quality through touch – it's called haptics. Haptics is, quite literally, the science of touch. It's a way of measuring how consumers react to physical objects, looking at what they like and what they don't, and then using those results to design vehicle features that make people feel good.

"Touch is such a vital sense," said Pietro Buttolo, technical specialist for Ford. "People know immediately what they like, what feels good to them. It's actually somewhat instinctive."

## Comfort zones

Ford engineers have special equipment that is used to measure resistance on dials and levers. By conducting market research on different levels of resistance, engineers can determine optimum comfort zones for customers.



## What you like is usually best



Extensive haptics research has assisted in the development of features such as floor shifters. In one test, for example, subjects manipulated a tabletop model of a shifter or one in a test vehicle while team members varied the characteristics like force, friction and the shape of the shifting pattern. They found a striking correlation between what people like and what works best – showing that the brain is integrating feel with function.

## Quick touch

Feedback through touch happens faster than with other senses, engineers have discovered, and usually evokes a strong, visceral response. Objects that have a solid feel may convey an emotional response ranging from a feeling of high quality to an enhanced sense of security.



## Golden rules

Engineers have been working on "perceptual design" in terms of vehicle interiors. They're establishing "golden rules" – very narrow criteria for the sense of touch – that can be applied across the board and enable Ford to create vehicle interiors that are harmonious to customers.

