

# FORD MOTOR COMPANY

## IMPLEMENTING DESIGN-FOR-ASSEMBLY FOR THE NEXT GENERATION MUSTANG

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Ford Motor Company is a global automotive company founded by Henry Ford in 1903. Famous for introducing the assembly line to the automotive industry, Ford “put America on wheels” by reducing the assembly costs of the Model T and making cars affordable for middle-class Americans. Today, Ford produces more than 6.6 million vehicles annually across 62 plants worldwide under the Ford and Lincoln brands.

Since 2011, the average assembly cost of a Ford vehicle has increased by 33%. While this trend can be largely attributed to advanced features being added to vehicles to meet consumer demands, the increase in labor costs has cut into Ford’s profit margins and become an area of concern. To combat this trend, Ford initiated a project focused on Design for Assembly (DFA)—designing products to reduce assembly times—without sacrificing aesthetics, functionality, or quality. The Tauber team analyzed the current Mustang so that their findings could be implemented in time for the initiation of the next generation Mustang’s development program. Additionally, the Tauber team was tasked to develop a DFA process to lower assembly costs across Ford’s family of vehicles.

Working as liaisons between Ford’s Vehicle Operations and Product Development organizations, the Tauber team identified DFA improvement opportunities on the door and Instrument Panel (IP) for the next generation Mustang. Over the course of the project, the Tauber team also interviewed assembly line workers, consulted product design teams, and benchmarked the current model Mustang’s interior with competitor vehicles to identify design improvements.

Business cases encompassing assembly line time studies, savings in part purchasing, and reductions in required tools were calculated to justify implementing the design recommendations. The Tauber team’s proposals reduced the required labor on the next generation Mustang door and IP assembly line by 20%. Ford is expected to reduce its annual costs by \$5.5M and fixed costs by \$500K by reducing required labor, management, tooling, screw, and part costs on the door and IP assembly lines.