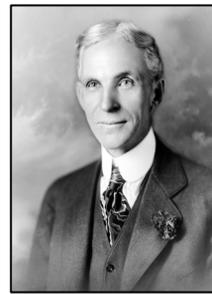


Henry Ford and the Assembly Line

The assembly-line process used to produce the famous Model T Ford was one of America's greatest gifts to the world. However, Henry Ford did not discover the idea of the assembly line.

The notion of interchangeable parts goes back to the manufacturing of muskets for the U.S. Army in 1798. Congress, anxious to outfit its newly created army, began looking at private contractors to manufacture the guns. One of the first contracts went to the famous inventor, Eli Whitney. Whitney was given a contract to produce 10,000 muskets, a considerable number of weapons for that time in the United States. Whitney realized immediately that to make such a quantity of weapons through the old method of making each part individually for each weapon would take too long. He decided to change course and try a revolutionary new idea. He decided to make the parts to the musket identical, so as the musket was passed down the table, the workers would reach into a pile of the and place one on each of the guns. This was the beginning of what came to be known as the assembly line process.

Although it was not an entirely new idea, Whitney was the first to demonstrate the effectiveness of the assembly line process. Whitney's greatest difficulty was in creating an exact duplicate of the parts. Today, when a product (like a lawnmower) has problems, you can easily find a part of the exact size and shape to replace it. The concept of using interchangeable parts in an assembly line process existed during the remainder of the century, but it was not common among manufacturers. It was the age of the automobile at the beginning of the 20th century that made this concept a complete reality. Henry Ford was the person most responsible for making the change possible



Henry Ford built his first car in 1896 and organized his business into the Ford Motor Company in 1903. Early automobiles were considered "toys" that only the wealthy could afford. Even early Ford vehicles cost approximately \$850 – which was a very high price at the time. But Ford did not want to make luxury cars for the rich and famous. He wanted to make a car that was affordable to farmers who lived in the interior of the United States. In order to accomplish this Ford decided to concentrate the focus of his company on the production of one simple, reliable car - the Model T. Affectionately nicknamed the Tin Lizzie, he simplified the design of his 20-horsepower automobile and produced his car by the assembly-line process.

The Model T's uncomplicated controls consisted of a hand throttle, plus one forward gear and reverse. Ford eliminated the rear door, only painting a line to indicate where the door might have been. The passengers simply climbed over the front seat to get to the rear. He also removed the metal roof and replaced it with canvas top that could be removed. From 1914 to 1925, all Model T's were painted black – Ford said he didn't care what color the customers wanted, so long as it was black.

By cutting costs, and using interchangeable parts in the assembly line process (with his addition of a conveyer belt), Ford Motor Company was able to increase production to over a million cars a year. Before he introduced the assembly line concept, he was only able to build 18,000 a year. By the 1920's, the price of a Model T Ford dropped down to \$290, making it the "inexpensive vehicle for the great multitude."

Workers at the Highland Park Ford Plant near Detroit, Michigan, in 1908 knew the meaning of the word dull. As bare car chassis moved quickly along the assembly line conveyer belt, individual workers put the same part or parts on each automobile. By the time the car rolled off the assembly line, the car was complete and ready to be sold to the consumer. The work required no skill or craftsmanship by the worker. In fact, the work was considered so boring that many workers just quit. Ford was able to stop some of the workers by offering them five dollars a day. Back then, most people made fourteen dollars a week, so Ford's wage was considered very good.

What Ford did with the assembly-line process and worker wages was to revolutionize American manufacturing and American life. The automobile was no longer a plaything for the rich. By the 1950's, almost every American family had an automobile. Today, most families have two or three. Life was changed. Suburbs grew because people could live father away from their work.

Moral codes change and so did American eating and social habits. Highways, superhighways, fast food restaurants, pollution, and the need for gasoline became part of the American life. The assembly line was a good thing – but then, one can also have too much of a good thing.