

Henry "Harry" Ferguson, Henry Ford and the evolution of the tractor. *By Brian Witt.*

Henry "Harry" Ferguson was an inventor who was constantly tinkering and trying new things. In the course of his life, he helped to revolutionize the tractor, helped revive the fortunes of an American automobile company's farm implements, and his name was known worldwide. Henry Ford was the son of emigrants from Cork who revolutionized automobile manufacturing. Together, these sons of Erin formed a strong alliance and helped change the way the world was farmed.

Harry Ferguson was born in Growell, near Hillsborough, County Down, on Nov. 4, 1884. In 1902 at the age of 18, he joined his brother Joe in a car and bicycle repair business in Belfast. In 1909, he made the first powered flight in Ireland, traveling 130 meters in a monoplane he had built. Ferguson formed his own motor business in 1911, and during World War One he began to sell American tractors to Irish farmers, who were more accustomed to horse-drawn plows. With the revolutionary concept that tractor and plow should be designed as a unit, Ferguson began to register his own patents.

Irish-American car maker Henry Ford started his Ford Motor Company in 1903. As a farm boy, he had a great interest in agriculture, and developing more efficient ways to improve cultivation and planting. An early model prototype tractor was completed in 1907. He used a number of parts from the Ford line of cars in order to cut development and production costs. It would be nearly a decade later before the first viable model, the Fordson Model F, came off the production line in Dearborn, Michigan.

As work proceeded, it became clear that the Ford Motor Company and its directors were completely unwilling to produce a tractor, so Henry Ford set up an independent company, Henry Ford & Son, to build and market the machine. The Fordson name was taken partially because there was a Ford Tractor Co. in existence, and partially because of the refusal of the Ford board to back up this endeavor. The Fordson Model F was rolled out in 1917 in limited production in Cork, Ireland, and scaled up to mass production in 1918 to meet the urgent need for tractors by the British government. When Ford assumed control of his company in 1920, the Henry Ford & Son Co. was rolled into the Ford Motor Co., but the Fordson name was kept.

The Fordson was revolutionary first and foremost because it was a smaller design than many of the tractors produced by other companies at the time. This allowed the Fordson tractor to be easily produced and be affordable for the average farmer. Just as Ford had brought the car to the middle class through assembly line production, the tractor was now also within reach. The Fordson tractors were made in Cork, and later in Dagenham, England. This proved to be costly for Ford down the road, as all tractors sold in the United States were at least 3000 miles away from the factories.

Harry Ferguson was also producing tractors during this period. He developed a plow suitable to the Fordson model F. In 1925, with Eber and George Sherman, he founded, ironically, in the United States, the Ferguson-Sherman Corp. in Detroit, which produced a plow with a "Duplex Hitch" system suitable to Fordson line tractors. He made his first Ferguson hydraulic system for his Ferguson-Brown prototype tractor for which David Brown had made the differential gear and transmission. In 1933, he founded with Brown the Ferguson-Brown Co., where about 1,350 Ferguson-Brown tractors, model A, were produced with his hydraulic system. In time, his hydraulic system would change the face of agriculture, but commercial success proved elusive for Ferguson.

Another application that Ferguson came up with was the "three point hitch". This allowed farm implements to be attached or detached from tractors with a minimum of effort, compared to previous devices. The hitch also allowed tractors to be able to plow on hillsides, because the implements were able to adjust the depth of the plowing. The three-point hitch was compatible with the Fordson line of tractors. This adaptation opened a door that allowed the Fordson to jump back up in popularity.

By the middle 1930's, Fordson sales had all but died in the United States, with the cost of importing them being the largest issue. In 1938, Ferguson met with Henry Ford. The men made a so-called "Gentlemen's Agreement". A handshake was the only contract that they ever had. Ford engineers used the Ferguson-Brown design, along with Ferguson's input, in order to produce Ferguson system tractors. Harry Ferguson was to do all the marketing for the joint venture.

The Ford 9N tractors were made from 1939 to 1942, and the Ford 2N tractors from 1942 to 1947. The tractor contributed enormously to wartime food production, but Ferguson's real hope was to raise living standards worldwide. In 1943, Ferguson Stated, "Agriculture should have been the first industry to be modernized, not the last".

The head of Ford Motor, Edsel Ford, who was Henry's son, died unexpectedly in 1943, and Henry Ford came back to take over the company. Upon Henry Ford's death from a stroke in 1946, his grandson, Henry Ford II, took control of the company. He immediately started to dismantle a number of things his grandfather had put into place. One of those being the "Gentlemen's Agreement" by handshake between Ferguson and Ford. Ford II disliked Ferguson's marketing of the tractor business, and wanted to cut out the middleman. In late 1946, he advised Ferguson that the agreement would end on June 30, 1947.

As soon as Ford Motor Co. started to sell its own newly named tractor, model 8N, which was built using Harry Ferguson's hydraulic systems, Ferguson filed a lawsuit against Ford Motor Co. & associated companies for \$350 million. The 8N was identical to the 2N/9N models, especially in its use of the Ferguson hydraulic model. Ferguson then negotiated with Standard Motors Co. to produce his new tractor, model TE20. Harry Ferguson drove the serial#1 tractor, model TO20, (which stood for Tractor Oversea) built in Detroit in 1948, off the factory line in somewhat of a victory drive. Ferguson pushed

his new line of tractors aggressively and his TO 30 model cut into the 8N market. The lawsuit and his marketing effectively killed Ford's 8N.

Harry Ferguson won \$9.25 million in compensation from Ford in 1952. In 1953, he merged with the Canadian Massey-Harris manufacturers, which, in 1954, became Massey-Ferguson Co. He retired from Massey-Ferguson Co. in 1958, selling out his portion of the company. After his retirement, he continued to work on and develop advancements in automobiles, which included four-wheel drive and anti-locking brake systems. Harry Ferguson suffered from insomnia and depression and, when he died from a drug overdose on Oct. 25, 1960, a coroner's jury returned an open verdict on whether he had committed suicide.

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