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Ford Ferguson and Ford N Series Tractors

BY BILL VANCE

It's well known that Henry Ford's over 15 million Model Ts, built from 1908 to 1927, put North America on wheels. Less well known is that Ford's tractors had a major impact on farming. It was a response to Henry's drudgery on his father's Dearborn, Michigan farm.

Early tractors, heavy steam "road locomotives," required skilled operation. Too big and awkward for most farm work, they typically hauled grain separators around and powered them during threshings.

Gasoline engines changed that. According

to Robert Pripps's book, *Vintage Ford Tractors*, Charles Hart and Charles Parr built the first production gasoline "tractor" (a name they coined), in 1902 in Charles City, Iowa.

Gasoline tractors were smaller, lighter, more manoeuvrable and easier to operate. The Hart-Parr started a tractor revolution; others like International-Harvester, Massey-Harris, John Deere and Ford followed.

Ford started experimenting with tractors with four cylinder car engines in 1906, but the Model T's explosive success delayed Ford's tractor for a decade. When the Fordson tractor was announced in the U.S. in 1917, it dominated the tractor market until the arrival of International Harvester's 1924 row crop Farmall.

When the First World War (1914-18) endangered grain shipments to Britain, the British government was desperate for tractors to increase grain production. Fordsons were shipped to England where they became popular, and when they were becoming obsolete in North America in the late twenties, production was moved to Cork, Ireland, then to Dagenham, Essex, England until 1938.

Through Fordson exports, Charles Sorensen, Henry Ford's chief executive, met Harry Ferguson in 1917. He was a mercurial Irish farm implement salesman and inventor, and the meeting had long term implications for Ford. In his book, *My Forty Years With Ford*, Sorensen said, "Had I been able to foresee the consequence of that meeting I would have avoided it."

In 1938 Ferguson demonstrated his David Brown-built, Fordson-inspired tractor to Henry Ford in Dearborn. It featured Ferguson's ingenious three-point, hydraulic hitch that made the tractor and implement, in effect, one unit.

The aging (75) Ford tried to buy the patent.

Unsuccessful, he made a hand-shake "Gentleman's Agreement" with Ferguson, to the consternation of Ford's management, in which Ford would manufacture tractors with Ferguson's hitch. Ferguson would market it, and design the implements, although Ford's engineers ultimately designed them after finding Ferguson's unsuitable for North America.

Ford's managers thought Ferguson had outfoxed Ford, and history vindicated that belief. According to Ford N-Series design engineer Harold Brock in *Vintage Ford Tractors*: "Over the years, Ford lost approximately \$9 million producing tractors for Ferguson to distribute, while Ferguson made about the same amount. Ferguson's investment was a few typewriters and a distribution headquarters in the middle of Ford's Rouge plant."

The Ford-Ferguson N-Series began with the 9N (9 for 1939) introduced in June 1939. Its side-valve 4-cylinder engine used many Ford V-8 components. The same 77.8 X 95.2 mm (3-1/16 by 3-3/4 in.) bore and stroke gave 1.8 litre displacement, half the V-8's. It developed 28 flywheel horsepower at 2,000 rpm. In a 1940 University of Nebraska test it produced 16.3 drawbar horsepower, and 23.6 belt horsepower, respectable for its class.

This real story, however, was Ferguson's three-point hitch. With two arms pulling

below the axle, and one pushing above, the 9N performed like a larger tractor. When ploughing, for example, some of the mounted plough's weight was transferred to the tractor's rear wheels, giving improved traction.

Ferguson's second ingenious feature was automatic draft control. When a predetermined drawing force was reached, the upper arm compressed a draft-load-sensing spring located under the seat. This signalled the hydraulic system to adjust plough depth, compensating for changing soil resistance or tractor attitude. Automatic draft control matched the average draft with the tractor's power and tractive ability.

The 9N's tracks could be changed for different crop row spacing, the front by an adjustable 3-piece beam axle, and the rear by reversible dished wheels. Downward extending kingpins added round clearance.

A starter, rubber tires and power take-off were standard. The Ford-Ferguson 9N was made until 1942, then replaced by the more basic 2N during the Second World War.

The 1947 8N superseded the 2N, proving so popular that Ford tractor sales reached a 20 year high. Built until 1952, it was replaced by Ford's 1953 NAA 50th anniversary Golden Jubilee model.

After Ford's new management cancelled the handshake agreement in 1947, Ferguson launched a tractor similar to Ford's. Built by England's Standard Motor Co., it used, among others, the 2.1 litre overhead valve Standard engine used in Vanguard, Triumph and Morgan cars. It was a strong N-Series competitor. Ferguson also sued Ford for \$341 million for, among other things, breaking the agreement, and patent infringement. Ford president Henry Ford II settled out of court for \$9.25 million in 1952.

Although Ford built many tractors before and after the N-Series, that sturdy little machine has been called *The Tractor of the Century*. Many are still in use 50 years later.



1951 Ford 8N Tractor

PHOTO BY BILL VANCE

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 The interior of a Lincoln Mark LT has a lot of extras that make it a luxury vehicle, according to David Gallinger. Gallinger Ford Lincoln in Milton. Inside the car, there's an Audio Sound System, an instrument panel surround by steel and wood, as well as captain's chairs made of genuine leather. He says customers can choose from two colors of leather currently available, either pearl or dove grey.

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