

The Nebraska Test

■ By Ian M. Johnston



In February 1916, US Congressman Wilmot F. Crozier purchased a tractor. He could never have conceptualised the far reaching consequences by so doing.

The tractor he purchased was a Ford Model B – and surely there could not have been more reputable brand name throughout the whole of America, than Henry's Ford! But sadly and significantly as it turned out, Crozier's Ford B tractor had no correlation whatsoever with the illustrious Henry. Infact, the tractor was a fraud!

The Ford 'B'

The perpetrator of the deception was a devious opportunist named W. B. Ewing. Knowing that Henry Ford was planning to release his new Model F tractor in 1917, Ewing, who owned a small steel manufacturing business in Minneapolis, irresponsibly rushed through the production of a farcical three wheeled tractor. He happened to employ an apprentice youth, whose name was Ford. Insidiously, he instructed the young Ford to append his signature to the blueprint design of the monstrosity. He then rushed the signed document off to the Federal Patent office, where he succeeded in patenting his 'Ford' tractor Model B. (Why B?) The year was 1915.

Two years later, Henry Ford's application to patent his new Model F tractor under the name of 'Ford' was rejected, as there was already a tractor patent allocated to a 'Ford'. Accordingly, Henry was obliged to change the name of his new creation to 'Fordson'.

For the record – Ewing's Ford B was powered by a Gile marine 16 hp twin cylinder horizontally opposed engine, originally designed as an auxiliary for small sail boats! The three wheeled tractor was propelled by means of the two front drive wheels through an exposed bull gear and pinion arrangement.



Wilmot F. Crozier.

Congressman Crozier

Willmot F Crozier of Polk County, apart from being a Nebraska State Legislator, was also a prominent gentleman farmer with considerable influence in government affairs, who rapidly came to the conclusion that his Ford B was a disaster! It proved to be totally unreliable and repeatedly had to be dragged out of the paddock in a broken down state by a pair of Clydesdales.

Appeals to Ewing proved utterly unproductive. He ignored letters of complaint and adopted a disposition of complete indifference to the problems.

In a state of frustration and anger, Crozier abandoned the Ford B and replaced it with a brand new Big Bull tractor, manufactured by The Bull Tractor Company of Minneapolis. Upon its arrival at his farm, Crozier experienced a feeling of trepidation when he noted the Big Bull was powered by the same make of engine as his Ford B. It was also a three wheel design, but in the case of the Big Bull the single wheel was located out front, and quite remarkably – only one of the two rear wheels propelled the unit.

The Big Bull proved nearly as unworthy as the Ford B. Crozier was not happy! Further, as he drove around his home state of Nebraska, he discovered that many farmers shared his displeasure with unethical and unprincipled tractor manufacturers, many of whom were taking advantage of the fact that most farmers had no previous tractor experience.

Senator Charles Warner, a close friend of Crozier, also experienced tractor problems and in frustration they jointly sponsored a bill which became law in the State of Nebraska in July 1919.

The bill stipulated that no new tractor could be sold in the State of Nebraska unless the manufacturer had been issued with a licence, which stated that a certificate for each tractor had been



Ford B – the sole remaining example. Lester Larsen driving. (PHOTO: Roland Spence)



Ford B – frontal view. Note 2 cyl. Gile engine. (Photo Vern Anderson)

obtained from The Agricultural Engineering Department of the University of Nebraska. This could only be acquired following a series of strict testing procedures by a hastily convened University Tractor Test Board.

The Nebraska Legislation

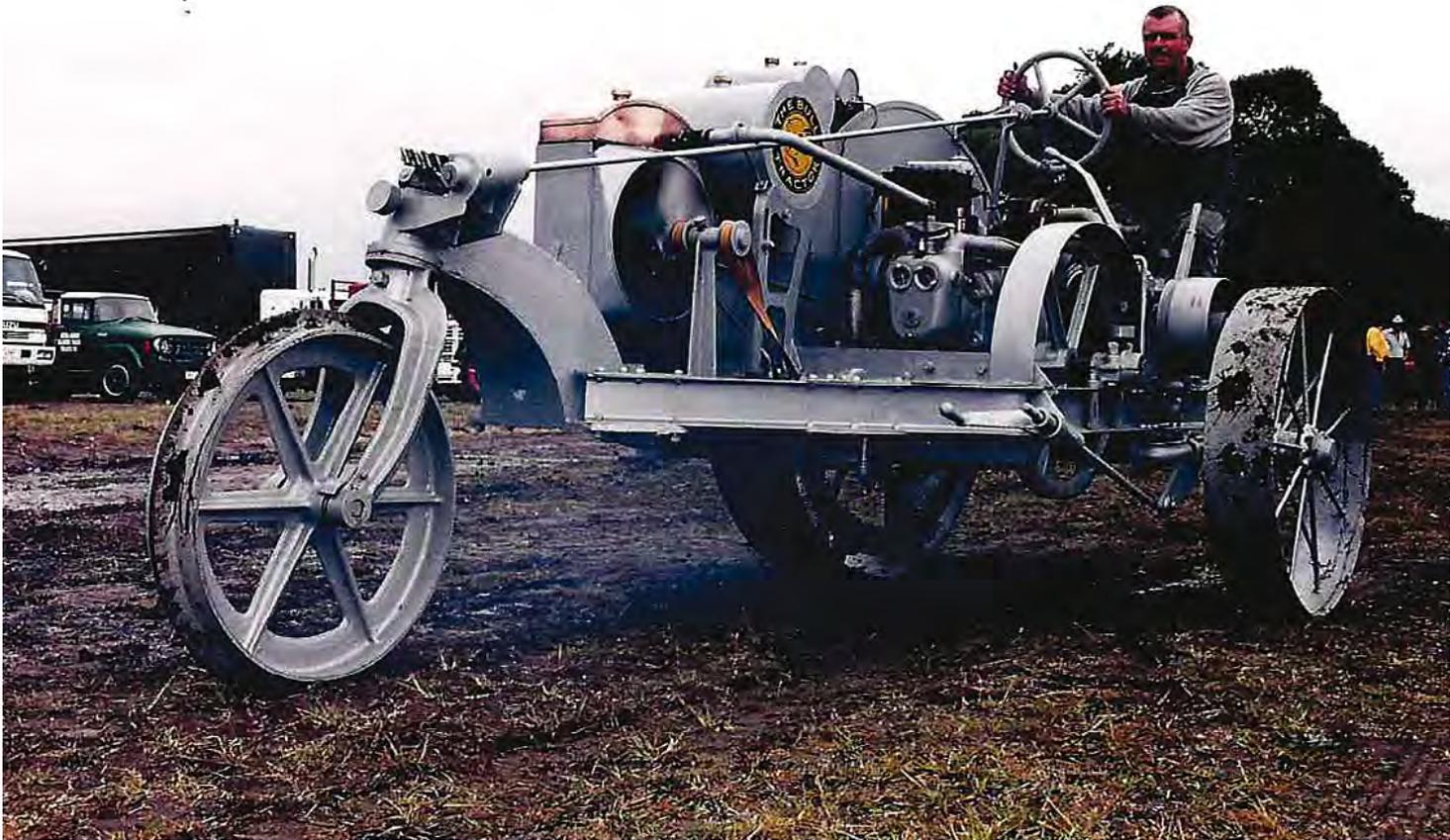
The new legislation had a dramatic consequence over the entire North American tractor industry. Nebraskan farmers accounted for a significant share of the total number of tractors sold in the USA and no tractor manufacturer could



Ford B and Graham Bradley on trailer. (Photo IMJ)

contemplate the withdrawal of their marketing operations in that State. Accordingly, all new tractor models, with very few exceptions, were submitted to the Nebraska Test Facility, where they underwent a series of rigorous testing to determine their adequacy and reliability, prior to being issued with a compliance certificate.

The engineering design of tractors rapidly advanced, as manufacturers could not contemplate the disgrace of having their claimed performance figures rejected. In addition, farmers welcomed the opportunity of being able to inspect the test results of a particular tractor prior to making a purchase.



1915 Bull at Victorian rally, brilliantly restored by Norm Johnson. (Photo IMJ)



Test monitor vehicle equipped with high tech electronics.
(Photo IMJ)

The first tractor to be tested (Test no. 01) at the Test Facility was submitted by Deere and Co. and occurred on March 31, 1920. The tractor was Waterloo Boy Model N, manufactured by the Waterloo Gasoline Engine Company, which had recently been acquired by the John Deere organisation.

Interestingly, at the end of 1930 an Eagle 6A, submitted by The Eagle manufacturing Company of Appleton, Wisconsin, was tested and designated Test No. 184, indicating that over a 10 year period, 184 tractors had been tested. A decade later – 1940 – an Oliver 80 was Test No. 365, indicating a further 181 tests.

In 1934 manufacturers were advised that the Facility was now prepared to accept tractors mounted on pneumatic tyres. Hitherto, the popular belief was that unless a tractor was mounted on steel wheels fitted with spud or bar grips, it would be incapable of obtaining proper traction.

Test No. 223 proved that such was not the case, when in 1935 an Allis Chalmers Model C mounted on pneumatics recorded a drawbar pull of 1402 pounds at 3.23 mph. The same tractor when mounted on steel wheels returned a lesser drawbar pull of 1201 pounds, but at the slightly higher speed of 3.79 mph.

On April 9, 1940, Test No. 339 was of a Ford 9N equipped with Harry Ferguson's 3 point linkage and draught response control. But the advanced design was too premature for the test engineers, as they had not yet developed a system of evaluating the benefits of the Ferguson Hydraulic System.

The updated facility

The Nebraska Tests were discontinued during the World War 2 period, but were resumed in 1946 under the direction of Lester F. Larsen, the newly appointed Engineer in Charge. Updated equipment items were installed, including a 400 hp dynamometer, designed to be driven by a power take off shaft. Hitherto dynamometer testing was performed using a flat endless belt attached to the tractor's belt pulley.

Additional equipment was installed to measure hydraulic lift capabilities, crash resistance of roll over protection systems and decibel readings within the interior of cabins.

A much larger test laboratory was constructed and, with the introduction of crawler tractors into the system, the original gravel surface of the test track was replaced by concrete paving.

Testing at the facility continues today unabated. Manufacturers must pledge that the tractor submitted is a stock model randomly



University of Nebraska Tractor Testing Laboratory. (Photo IMJ).

selected. Additionally, a factory representative must be present during the entire testing procedure.

The Test Laboratory is now currently capable of testing engines up to 1000 horse power and engine revolutions up to 12,000 revs per minute.

Tailpiece

Following 29 years of service, Lester Larsen retired but was encouraged to establish a Nebraska Test Museum, within the original test laboratory at The University of Nebraska. The museum is currently custodian of over 40 magnificent examples of early farm tractors.

Some years ago, during a visit to Lincoln, the capital city of Nebraska and the home of the Tractor Test Laboratory, I was privileged to be introduced to Lester Larsen by a distinguished tractor collector named Vern Anderson, upon whom I had had arranged to visit and inspect his rare 1938 Graham Bradley. (More on that in a future article). Upon being introduced, Lester Larsen personally escorted me through the museum and I was delighted and thrilled to be shown the sole remaining example of the iniquitous Ford B.

IAN'S MYSTERY TRACTOR QUIZ

Question: Can you name this historic 1917 Australian tractor?

Degree of difficulty: Easy if you are a fair dinkum Aussie.

Clue: It was made in Ballarat, Victoria.

Answer: See page 72.

