

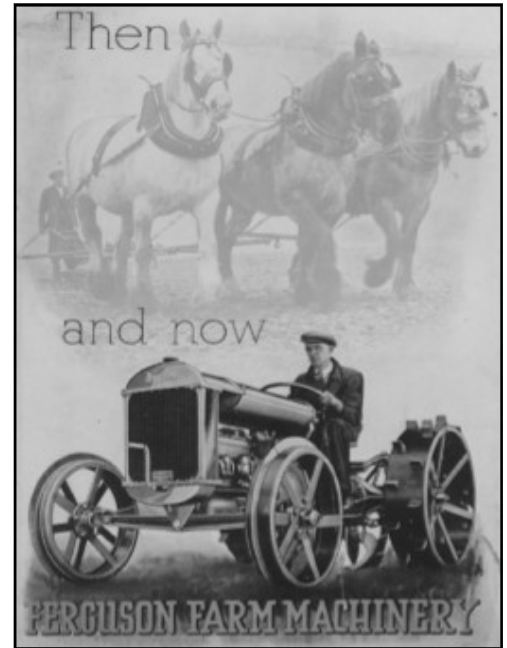
"We don't understand each other!"

Our British "Ferguson Cousins"

By John Farnworth

Writing from the UK, but being a regular visitor to shows in North America, I am acutely aware that the vast majority of Ferguson enthusiasts on each side of the Atlantic are unaware of each others' Ferguson Heritage. Sometimes it as if there is total lack of information by each of what was achieved by Harry Ferguson on the other side of the Atlantic. I'll be frank and say that the one thing that perturbs me most on my visits to North America is the lack of understanding about the "Ferguson System" tractor made by Ford – i.e. the "Ford Ferguson" as it is commonly known, or the "Ford Tractor with Ferguson System" as it was badged. There seems to be little recognition of the fact that Harry Ferguson and his team were the overall designers of the Ferguson System within it, and the application of the Ferguson System to the tractor. In this respect Ferguson and his team were the conceptual designers with Ford indisputably the manufacturer; in this sense it is of course a Ford tractor. Indeed it used many Ford components which fitted in with Ferguson's conceptual design including the Ford engine and Ford rear axle derived from their 1-1/2 ton truck. It is also noted that Harry Ferguson initially had to persuade Ford of the relevance and need for such a small tractor.

I was pleased to be invited by your editor to present an appraisal of our British-made Fergusons, so I hope the following will be of interest to North American Ferguson enthusiasts.



The first Ferguson tractor

Design of Harry Ferguson's first commercial tractors resulted from his pioneering experiments with linking ploughs directly to the prime mover. His earliest trials used Ford "Eros" (Model T Ford car conversion), then he progressed to using Standard Fordson tractors. All the early trials, many conducted in Northern Ireland, the country of Harry Ferguson's birth, were with mechanical linkages to achieve the integration of plow and prime mover as well as effecting weight transfer with draft control to the prime mover. They had the added advantage of preventing the nose light Fordsons rearing up and overturning whenever a plow struck an obstruction. Ferguson-designed plows for the Fordson tractor were quite widely sold in North America in the 1902's, and also some in the UK. Eventually the mechanically controlled plow-to-tractor linkages were evolved to hydraulic control on a Standard Fordson tractor. The hydraulic pump was external.

Ferguson's first prototype tractor, known as the "Ferguson Black" tractor was made in 1933-1934. This is preserved in the British Science Museum in London.

The hydraulic pump was now positioned internally. It had an 18 hp engine and weighed 1,640 lbs.

The first commercially produced Ferguson tractors in Britain

The Ferguson Black tractor design was the basis for the first commercially produced Ferguson tractors which were badged as the Ferguson Model A. They were made by David Brown and Sons Ltd. in Huddersfield, Yorkshire, England under the auspices of Ferguson-Brown Ltd. and David Brown Tractors Ltd. David Brown were renowned engineers, later to develop their own line of tractors.

The tractors became commonly known as "Ferguson Browns". Some 1250 were made between 1936 and 1939 and a surprising number survive to this day. They command high prices now – in the order of \$15,000 being a not uncommon price for a decent one, more for well restored specimens. I am aware that in recent years at least one has been imported into the USA. The tractors were sold quite widely in UK and mainland Europe – particularly Scandinavia. The first Ferguson Model A tractor is owned by AGCO.

The agreement between Ferguson and David Brown was ultimately terminated and Harry Ferguson, Inc. went on to the celebrated "hand shake" agreement with Ford to make the Ford Tractor with Ferguson System in the USA. They were produced from 1939-1947. Many came over to the UK but were never commercially sold as such. Rather they

came over as part of the war-time Lease Lend agreement and distributed by the War Agricultural Committees. 306,256 Ford Fergusons were made in the period 1939-1947.

TE and TO

Before moving on to the UK TE tractors it is perhaps useful to clarify that TE means Tractor England and that TO means Tractor Overseas.

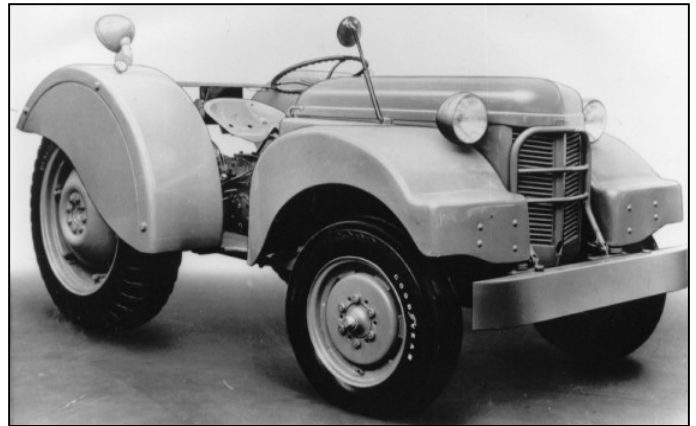
The Ferguson TE-20 tractors made in Britain

Following on the establishment of tractor production in USA with Ford, Harry Ferguson then turned his eye to establishing production of a Ferguson tractor in the UK. He had failed to convince Ford to do this and terminated his agreement with them. This must have been daunting work given the production and material constraints of the 1939-1945 war. Eventually Harry Ferguson Ltd. reached an agreement with Sir John Black of the Standard (car) Motor Co. to produce tractors for him at an ex-wartime aero engine factory in Coventry, Warwickshire, England. The agreement was made on August 20, 1946 and the first tractors rolled off the line later that year. They were made at the now world famous "Banner Lane" factory. This went on to produce Massey Ferguson tractors until December last year. Harry Ferguson had his Engineering Design and Administration departments a short distance away on Fletchamstead Highway.

The first and half millionth tractor produced at Banner Lane are still at the Banner Lane site museum.

517,651 TE-type tractors were produced at Banner Lane between 1946 and 1956. However unlike the North American TO-20's and TO-30's, there were many variations of the TE tractors which shows in a third or fourth letters added to their designations, summarized in Table 1 below.

As can be seen from Table 2 on page3, five different engines were fitted at the factory to Ferguson TE-type tractors. Also included in the table is note of the Perkins P3 engine. This engine was commonly fitted (as an after market product; it was never approved equipment) to the TE tractors when the petrol and petrol/two engines needed replacement or expensive repair. It was a fine engine and to my mind quite the best engine ever fitted to a TE tractor. However, to fulfil a particular specification export order to Yugoslavia, some TE tractors were actually fitted with P3's in the factory.



A full industrial version of the TE is shown here.

The basic tractor had a width of 5 ft. 4 in. The narrow tractors were 4 ft. 6 in.; the vineyard tractors 3 ft. 10 in.

In North America the petrol engine tractors were sold as the Ferguson Twenty-80 and Twenty-85 denoting their respective engine bores of 80 and 85 mm.

French assembled TE tractors

Ferguson tractors were sent from UK to France in knock

Table 1. TE Designations

Tractor type	Engine				
	Continental	Standard Motor Co Petrol*	Standard Motor Co. Petrol/TVO**	Standard Motor Co. Lamp Oil***	Standard Motor Co. diesel
Standard	TE	TEA	TED	TEH	TEF
Vineyard		TEK	TEL	TEM	TEN
Narrow	TEB	TEC	TEE	TEJ	TEG
Full industrial#		TEP	TER	TES	TET
Semi Industrial		TEP 20T	TER 20T	TES 20T	TET 20D
Basic Industrial 1~		TEP ZD			TET ZD
Basic Industrial 2~		TEP ZE			TET ZE

*gas and **kerosene to you folks in North America! *** for certain markets in Europe

There was also an industrial council type which appears not to have had its own designation

1~with agricultural fenders 2~without rear fenders

down form for assembly at the Standard Hotchkiss factory. Some local components were used – mostly electrical. Unlike the pure grey British tractors, French assembled tractors had a red chassis and grey tinwork. The model designations of these are shown in Table 3 below.

Ferguson FE 35 tractors

The British equivalent of the TO 35 tractors was the FE 35, both based on designs by Herman Klemm of Harry Ferguson Inc. in North America. Following the merger of Massey-Harris and Ferguson in 1953 his design won out over Harry Ferguson Ltd designs in UK for a large Ferguson tractor. This was code named the LTX. Several prototypes were made but all were scrapped when the Massey-Harris-Ferguson management opted for Klemm-designed 35. The LTX tractor (large tractor experimental) had been provisionally designated as the TO-60 for North America and the L-TE-60 for the UK. The prototype engines were rated at 48 hp and the performance of the prototype tractors was demonstrated to be superior to anything on the market at the time, and with a simpler hydraulic control system than the 35s.

Initially the Ferguson FE 35 tractors had grey tinwork and a gold chassis. They became affectionately known as the “grey-gold” Fergusons. 73,655 of these tractors are estimated to have been made.

They were all fitted with Standard Motor Co. four cylinder engines in petrol, diesel, lamp oil or TVO form as shown in Table 4 on page 4.



This Ferguson TEF is equipped with a Ferguson High Lift loader, popularly known as the “Banana Loader”.

Basic and deluxe industrial models, and also a vineyard model were offered. The FE 35’s were made from September 1956 to December 1957. Then with the change in company name from Massey-Harris-Ferguson to Massey-Ferguson, the livery was changed to the now familiar red tinwork and grey chassis. The designations of the 35 tractors are given in Table 5 on page 4.

Well, I think that is as brief a summary I can make of our British Fergusons and how they fit into the overall pattern

Table 2. Engines of the TE tractors

Type	Bore mm	Stroke mm	Displacement cu in	Compression ratio	Max belt hp
Continental Motors					
Z 120	3.188 in	3.75 in	120	6:1	23.9
Standard Motor Co					
Petrol 80 mm	80	92	112.9	5.77:1	23.9
Petrol 85 mm	85	92	127.4	6:1	28.2
TVO	85	92	127.4	Type 1. 4.8:1 Type 2. 5.1:1	Type 1. 23.9 Type 2. 25.4
Lamp oil	85	92	127.4	4.5:1	22.9
Diesel	80.96	101.6	127.68	17.1:1	26
Perkins					
P3 (TA) diesel	3.5 in	5 in	2.36 litre	16.5:1	32 brake hp

Table 3. Designations of French assembled TE tractors

	Petrol	Diesel
Standard	FF30 GS	FF30 DS
Narrow	FF30 GE	FF30 DE
Vineyard	FF30 GV	FF30 DV
Standard with epicyclic reduction gearbox	FF30 GJ	

of Ferguson tractor development – very much a Trans-Atlantic affair started in Northern Ireland!

However it is also worth noting that at the time of the M-H and Ferguson merger there were 16 Ferguson companies around the world. Only one was in the USA - Harry Ferguson, Inc. Harry Ferguson Ltd. was its equivalent in the UK with two other small holdings. The other 12 were far afield in Europe, Australasia, Africa and Asia. At the merger it is on record that Ferguson tractors were being exported to 28 individual countries and many countries in nine regions of the world (e.g. East Africa, Middle East). The history of these overseas Ferguson companies and exports remains to be accurately documented – I would be pleased to hear from anyone who has information on this.



A petrol/tvo Ferguson TE with an Italian-made after-market front wheel drive unit.

We have three key books on Ferguson in the UK, one by me.

- Ferguson Implements and Accessories. John Farnworth. ISBN 0-85236-354-0
- The Ferguson Tractor Story. Stuart Gibbard. ISBN 1 903366 08 9
- Harry Ferguson – Inventor and Pioneer. Colin Fraser. ISBN 0 9533651 2 3

We also have two very successful Ferguson enthusiasts' clubs each producing their own magazines. The membership addresses are:

- + *Friends of Ferguson Heritage*, 7A Church Way, Whittlebury, Towcester, Northants, NN12 8XS
- *The Ferguson Club*, 37 French Rd., Hillsborough, Co. Down, BT6 6JL

John is an agricultural consultant by profession working in the Middle East, Asia, North Africa and the new republics formed from the break up of the old USSR. He was born on a farm near the Massey-Harris factory in Manchester, England and his grandfather tested M-H equipment. The family moved on to Ferguson and MF tractors over time. John and his son have a collection of M-H and Ferguson tractors and in recent years he has written a series of books on the whole history of Massey Ferguson/Massey Legacy.

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Table 4. FE 35 engines

	Petrol	Diesel	Lamp oil	Petrol/TVO
Bore mm	87	84.137	87	87
Stroke mm	92	101.6	92	92
Displacement cc	2186.5	2259	2186.5	2186.5
Brake hp	37	37	29	30

Table 5. FE and MF 35 designations

Chassis		Engine		Clutch	
Normal width	S	Petrol 6:1	G	Single	F
Vineyard	V	Petrol 6.6:1	H	Dual	M***
Industrial	J	Diesel 23C engine	D		
High clearance	C	TVO	K		
		Lamp oil	L		
		Diesel A3.152 engine*	N		
		Gas(butane)**	B		

*This 3 cylinder Perkins made engine replaced the 4 cylinder engine in the M-F era

** Although there is a butane designation nothing is known of such a tractor.

*** All de luxe tractors had the M designation and other de luxe features formed part of the de luxe package