

## Editorial for Summer Newsletter

Yes I'm back, but not to full mechanical health and things have changed somewhat – I must apologise about that but time moves on and I've realised I'm not getting much younger. It is very much like the old car and the tractors – can't cope any more so no more renovations. Time for a clearout, if it has not gone already!

I believe a very successful road run was organised by our friends down at Twynholm on 24<sup>th</sup> April and this time it was so well organised the sun shone. I am told a total of 48 tractors took part from members and visitors from all areas of south west Scotland. Unusually though the vintage machines were not as good as the weather and we had two breakdowns, but all managed to return to Tarff near Twynholm.

The trip of 33 miles took in some lovely countryside and forest tracks and the old railway route near the Fleet viaduct. Well done lads, I know you had a grand day out and at the same time collected a lot of money for MacMillan Cancer Relief – making a contribution to charity as well is what it is all about.

Our annual rally is due to take place on 29<sup>th</sup> May as usual, the last Sunday in May at Park Farm, our venue for the past 29 years this being our 28<sup>th</sup> event (one year lost due to foot and mouth disease) – be sure you don't miss it and support our organiser Willy Gordon who is doing a grand job.

Another event not to be missed is the annual Friends of Ferguson Heritage Club's working day on August 21<sup>st</sup> again hosted at the home of the "local Fergyman extraordinaire" Willy Cruikshank, now back in the driving seat at West Mains, Collin, – a great event. Willy gets all his sheds emptied and tries to operate all his Fergusons and implements – a great sight. (Thank Willy for the use of a field for the "ploughing tuition" day which was held on another nice sunny day, March 20<sup>th</sup>.)

By the way

- (i) did you know that the Government have for the time being dropped their plans for a vehicle “possession tax” whereby they were to levy an annual charge of £4.50 (to start with) each time you renewed their road tax discs and the SORN document for vehicles that are off the road? The Government spokesperson said the revenue was intended to cross-subsidise new photo identity driving licenses and also the first registration costs (they say) of new vehicles. I think they dropped the plan due to MP pressure and lobbying by enthusiasts and the Federation of British Historic Vehicle Clubs.
- (ii) the Department of Transport has announced plans to make sure all vehicles are insured to be used at all times – whether they are driveable or not. These proposals called “Continued Enforcement of Motor Insurance Requirements from the Record” would allow authorities to penalise an individual recorded as the Keeper of a Vehicle that is (or has recently) been taxed and which has no current insurance.

## ALVIS

Well, at a period in our transport history when good old BL and Rover - call it now what you will - has gone under, there is still one vehicle producer based in Britain and it is British owned but for how long I wonder. Alvis is a famous car maker but now only makes military vehicles – personnel carriers – things we occasionally see around here when there is a military exercise on the go at the Dundrennan Range.

It began in a small way in 1920 as TG John Ltd and developed into a well respected Coventry engineering company noted for car, aero and military projects. The first car, a 10/30, was developed and refined into the very famous vintage car the 12/50. In the late 20's (before its time) the Company produced the first front wheel drive all independently sprung car. Alvis' first six cylinder car of the same date developed into the Silver Eagle and later the Crested Eagle (a 3.6 litre, 85 mps top speed 37 cwt sports car).

Then in 1932 came the Speed 20, a 3 ½ litre 90 mph sports car classy coach-built body, succeeded by the Speed 25 (a developed 3 ½ litre engine became 4.3 making the car the 100 mps fastest pre-war Alvis. Just before the war a smaller car was projected and built in small numbers but after the war the 1892cc 4 cylinder OHV engine formed the basis of the popular and stylish TA14. A developed chassis and 6 cylinder engine saw the TB21, TC21; TD finalising with the TF21 which was capable of 120 mph. Production ceased in 1967 two years after Rover acquired the car producing part of the company. The highly specialised hard skin cross-country vehicle business was retained.

In all probability the famous Alvis red triangle name and logo was still owned by the Rover Group on its demise last month – together with other famous Coventry names of Standard, Triumph. Rover maybe still own the rights to use MG, Wolseley, Riley, Trojan and possibly Maudslay Crossley Bean and Albion, as a result of the large-scale merger of BMC, Rover Triumph and the Leyland group of the late 60's. Brand names, it appears, have some great value, at least as marketing weapons.

## Anniversaries

On a sad note, only last year I did a note recording the centenary of Rover and now I note with sadness its demise – at least in Britain – another British manufacturer bites the dust – will we make anything soon?

Well, it is 50 years since the first of the modern MG sports cars were introduced, the MGA with its beautiful modern sleek styling, independent suspension and pin sharp steering, and powered by the 1500cc version of the long-lived 'B' series engine.

Newly introduced in 1955 were the sporty 2-door saloons – the Sunbeam Rapier and the improved Jaguar XK – the 140 and the Triumph TR3. At the other end of the scale saw the introduction of the glass fibre bodied and motorcycle engined Fairthorpe Atom and the sad demise of the Lanchester name on new cars. Standard cars went all modern by marketing their first unitary construction Standard Vanguard – series III (with same engine again as our friendly grey Ferguson spark ignition tractor and with the same bore size too of 85 mm – when did you last see a Lanchester or for that matter a series III Vanguard?

Bentley and Rolls Royce introduced their last chassis based car – respectively the 6-cylinder 4.9 litre engined S1 and Silver Cloud – perhaps the last of the real traditionally Crewe built luxury limousines. 1955 also saw the demise of the Albion farm machinery make – taken over by David Brown – the trade name Albion was the Harrison, McGregor and Guest Implement Manufacturing Company in Leigh, Lancashire – not to be confused with Albion Motors of Glasgow who themselves had been taken over 55 years ago by Leyland Motors.

1945 (60 years ago) saw the last Fordson N coming off the production line (the last one was serial no. 983647. One can't really believe that Ford were still producing the hand starting side valve 4-litre engined tractors in the late 40's. Yet Harry Ferguson Ltd were producing the little self-starting, overhead valve, 2 litre tractors able to do much the same work with more versatility at the same period. Yes, there has been a fantastic amount of progress in the intervening years, how much easier and faster everything is today, electrically complicated perhaps – great as long as it doesn't get wet!

1945 similarly saw the first E27N Fordson come off the production line and by 1955 the 100,000<sup>th</sup> new Fordson Major (EIA) rolled off the Dagenham assembly line. Further forward in 1965 (forty years ago) the first Ford tractor was built at the new Basildon plant – a Ford 5000. The new factory covered over 1 million square feet of space, the site itself over 100 acres, and was at the time the largest and most modern plant in Europe capable of producing over 300 tractors and 500 engines a day!

## Ignition Timing

This is a subject we all know a little about, sometimes more about the little than we realise! Even with our old tractors and engines it is still an important feature and if we get it right then the machine will run better and it will sound better too once it is running correctly. One point to be remembered is that the currently available unleaded petrol is somewhat a higher octane than our old machines were designed to run on and it burns a bit hotter too. And as a further aside, the modern fuel "goes off" very quickly too (as John Thomson is always reminding me about my petrol strimmer) old fuel will not ignite too well so drain it off and get some fresh stuff.

Perhaps the most common engine type in captivity is the old Standard Vanguard type used in the spark ignition Ferguson and Massey Ferguson tractors – there are scores of these about. They are reliable and simple to work on and when timed correctly run a treat. The trouble is that there are no timing marks as such – many cars of the period (and even later) had the correct timing marked on the front timing cover by a metal marker and a cut out on the bottom pulley. The Fergy has no such feature. However it does have a drilled dowel hole in the engine block just below the starter motor. If you carefully put a straight piece of say welding wire through this at approximately top dead centre on the firing stroke it will engage in a similar hole in the flywheel.

How do I know where top dead centre (TDC) is anyway you ask? Well take off the cap covering the distributor to see where the rotor arm is pointing. It needs to be pointing towards No.1 plug lead (with points-contact breaker just about to open). Turn the engine slowly using the starter handle – or whatever method you use (I put the machine in top gear, with all the plugs out, and push forward slowly).

When one is about right find approximately an 18" length of stout welding wire and push it horizontally through the dowel hole and get it to mate up to the hole in the flywheel. Once achieved you now have TDC on the firing stroke of No. 1 piston. To be really accurate a dowel of ¼" diameter rod will fit really snugly.

Each machine type has its own "initial timing" in crankshaft degrees – in the Fergy it is usually 6° before top dead centre (BTDC). This can be checked by use of the small indicator plate underneath the mounting holes for the distributor (1 graduation on the plate represents 2° of distributor or 4° of crankshaft). The difference is due to the

## TIMING CONTINUED

distributor only running at half engine speed.

Once the correct initial static timing has been found in accordance with the manufacturer's recommendations the process of setting the points gap and positioning the distributor can commence.

Using a test lamp – fit one terminal of test lamp to + (or CB) terminal of ignition coil and connect the other test lamp terminal to the other – (or SW) terminal of the coil and then switch on the ignition. If the test light is not alight turn the distributor slowly and carefully in the direction of rotation of the rotor arm (often marked with an arrow on the rotor arm itself) until it is alight. Then very carefully move it slowly against the rotor arm rotation until the light just goes out. Reclamp the distributor.

To check, turn the engine one revolution in the direction of rotation and ensure the light goes out exactly when the timing marks are in line.

All this assumes that the ignition points are clean and have been set to the correct gap. Any alteration in points gap will affect the timing a little. Usually the gap for Lucas distributor points is 0.015.

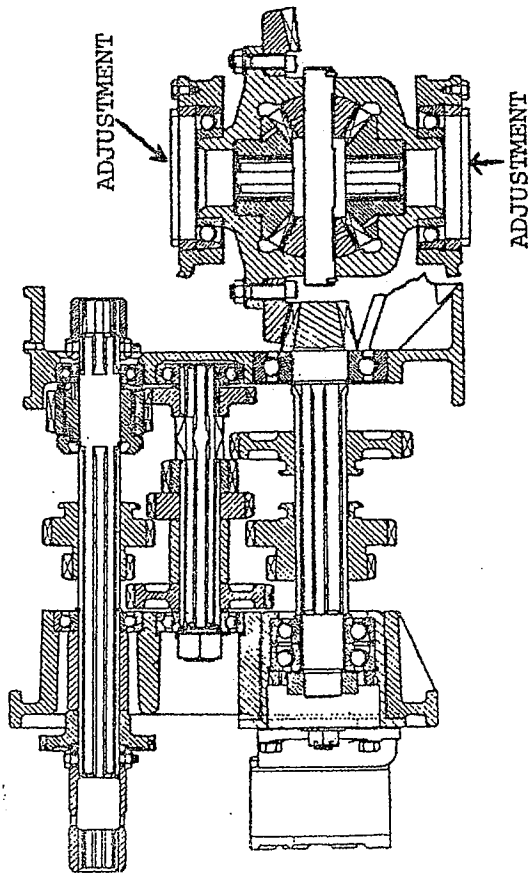
CLUTCH Borg and Beck 10" A6 type clutch, 6 springs with free length of 2.5".

Adjustment, 1" of free play on pedal by using link rod between pedal and cross shaft, Clutch can be moved without affecting engine, remove scuttle and fuel tank, clutch cover and gearbox cover, remove muff coupling bolts and slide coupling onto gearbox input shaft, also take "steady" bearing rearwards. Slacken all pedal adjustment and take clutch thrust bearing from fork, insert 5/16" thick wedges between clutch fingers and case, then slowly release clutch cover to flywheel clamping screws, lift out cover, clutch plate and clutch shaft.

CLUTCH SAFETY NOTE.

When adjusting rear hand clutch be certain the spring pressure is sufficient to pull lever crisply to disengage position when released.

TRANSMISSION Six forward and two reverse gears (four speed option) on VAK 1C, crown and pinion final drive, seven tooth pinion, fourty three tooth crown wheel, adjust crown wheel assembly carrier bearings by loosening split caps and turning castelated ring (see illls.). tighten untill slight drag (will not spin) with crown wheel tooth backlash .008 thru



TRANSMISSION SPECIFICATION

CLUTCH:  
 Make Borg & Beck  
 Type 10 A6 - G  
 Springs:No. 6  
 free length 2.47"-2.53"

GEARBOX:  
 Road Speed at engine 1300 2000.  
 R.P.M.

No. of speeds	6	m.p.h. m.p.h.
Final Ratios: Low 1st	140.90	1.25 1.92
Low 2nd	75.98	2.31 3.55
High 1st	57.23	3.07 4.72
Low 3rd	38.34	4.58 7.05
High 2nd	30.84	5.69 8.76
High 3rd	15.57	11.28 17.35
Low rev	87.48	2.01 3.09
High rev	35.42	4.94 7.60

No. of speeds (option)	4
Final Ratios: 1st	94.10 1.86 2.87
2nd	64.55 2.72 4.18
3rd	43.64 4.02 6.19
Top	17.73 9.90 15.23
Rev	141.20 1.24 1.91
Crown wheel/bevel pinion teeth	43/7
Final reduction teeth	37/10

FUEL SPECIFICATION T.V.O. ENGINE

Carburettor 30 FV SOLEX  
 Choke Tube 22 m.m.  
 Pilot Jet 45  
 Compensating Jet 57  
 Main Jet 106  
 Main Tank Capacity 10 Galls  
 Aux. Tank Capacity 1 1/2 Galls  
 Tecalmit three way top controls fuel supply, cork washer in tap body with adjustable spring pressure.

COLOUR FINISH

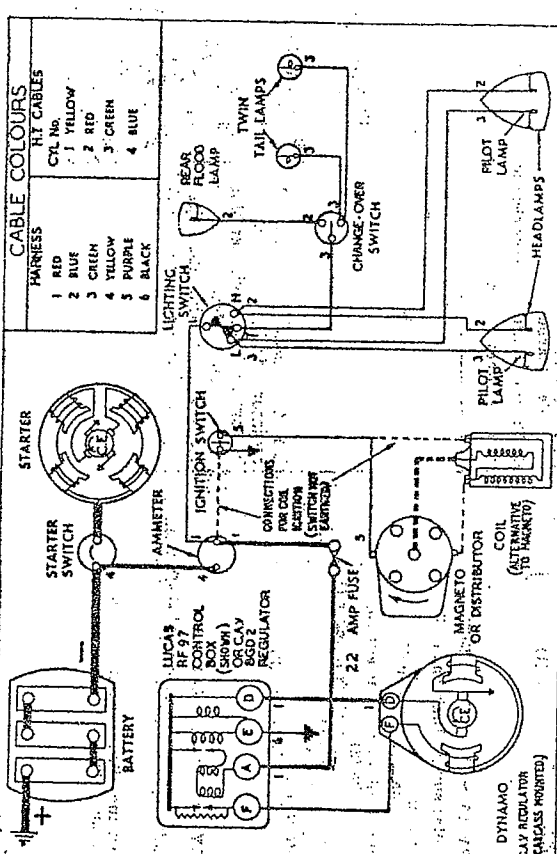
Complete tractor finished in "Hunting pink" inc. wheels.  
 Seat upholstery light khaki canvas - some finished with medium brown canvas.  
 Decals - single vertical decal on radiator front on early models later supplimented with "David Brown" in black lettering on bonnet afterwards the word "Cropmaster" was added in script.  
 final tractors had chrome motif on bonnet "Cropmaster" in script.

GENERAL DATA

Front Axle  
 Tapped bearings on wheels, adjustable with castle nut.  
 Toe in for track rod setting 1/4"  
 Internal hydraulic system controlled by hand lever on R.H. side mudwing. Gear pump driven from front of gearbox takes transmission oil through magnetic filter working pressure 900lb/sq.". Overflow lubricates gearbox and P.T.O.

Wheelbase 5ft 11 1/2"  
 Track (adjustable) Front, 4'1" to 5'2" 2" steps  
 Rear, 4'1" to 5'7" 2" steps  
 Turning Circle 10'6"  
 Weight 29 1/2 cwt  
 Tyres Front 600x19 24lb/sq"  
 Rear 900x28 14lb/sq"  
 High 718 rpm  
 Low 484 rpm  
 2 Speed P.T.O.  
 Belt Pulley  
 Pulley diameter 8 1/2"  
 " width 6 1/2"  
 " speed High 1400 rpm  
 Low 990 rpm

DAVID BROWN TRACTOR WIRING DIAGRAM



BRAKES

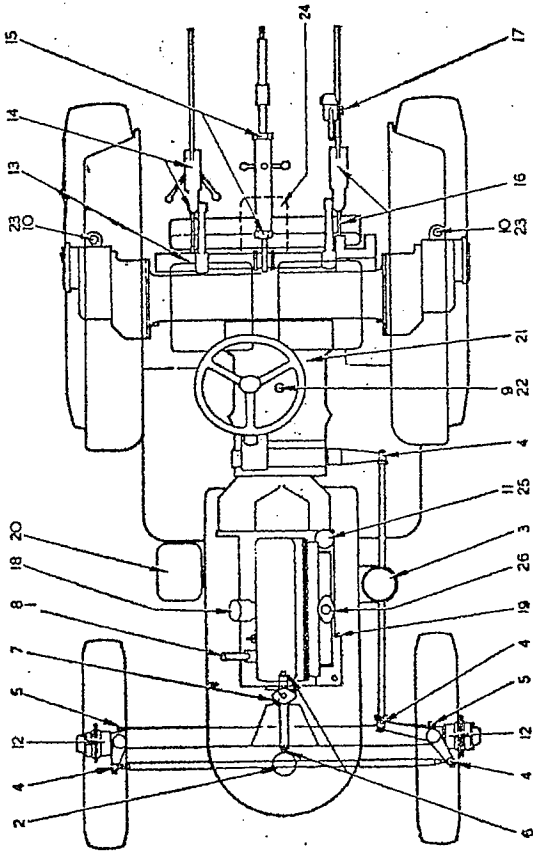
Two hand levers for independant turning.  
 Brakes single foot pedal controls both brakes together for road work.  
 Adjustment is by nuts on rear of brake rods.

DATING GUIDE

V.A.K/1C Tractor introduced in 1948 starting serial No. 10001 prefix P for T.V.O. engine P.D. for diesel number marked on plate screwed to dash. In the event of model being marked V.A.G./1C this denotes gasoline or petrol engine, quite rare in U.K.



# DAVID BROWN TRACTOR MAINTENANCE DIAGRAM



## KEY TO MAINTENANCE DIAGRAM

### EVERY 10 HOURS OR DAILY

- 1. Engine sump } Top up
- 2. Radiator
- 3. Air cleaner—Clean and refill with oil
- 4. Steering ball joints (4)
- 5. King pin bearings (2)
- 6. Front axle transmission bearings (2) } Grease gun
- 7. Water pump bearings (1)

### EVERY 60 HOURS OR WEEKLY

- 8. Engine sump—Drain and refill
- 9. Gearbox } Top up
- 10. Reduction boxes } Top up
- 11. Engine oil filter—Clean element
- 12. Front hubs (2)
- 13. Power lift cross-shaft bracket (1) } Grease gun
- 14. Levelling lever (4)
- 15. Power lift top link (2)
- 16. Lift arm (2)
- 17. Manual width control (2)

### EVERY 240 HOURS OR MONTHLY

- 18. Magneto or Distributor—Oil shaft bearing, auto advance and contact breaker pivots, Grease cam. Top up lubricator on magneto
- 19. Dynamo—Refill lubricator with h.m.d. grease. Oil can if oilers fitted

- 20. Battery—Top up
- 21. Power lift pump filters—Clean

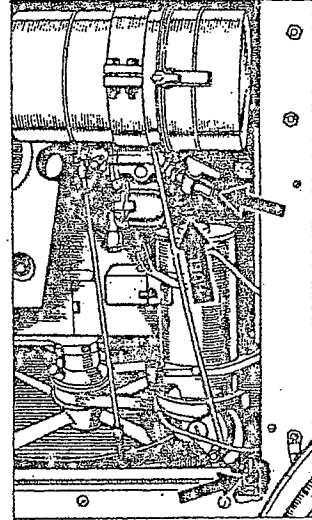
### EVERY 1,000 HOURS OR EVERY 4 MONTHS

- 22. Gearbox } Drain and refill
- 23. Reduction boxes } Drain and refill
- 24. Pulley gearbox
- 25. Engine oil filter—Renew element
- 26. Fuel filters—Clean

FILL-UP DATA			
Engine sump	12 pints	litres	6.3
Transmission	3 1/2 gallons		16.9
Reduction boxes (each)	2 pints*		1.14
Air cleaner	1 pint		.5
Cooling system	6 gallons		27.3
Fuel tank: petrol	1 1/2 gallons		6.5
vap. oil	10 gallons		45.4
Tyre pressures: front	38lb		
rear	22lb		

\* VAK and VAK/A 1 1/2 pints.

## DRAINING POINTS



On the near side are the radiator drain tap on the bottom tank, the cylinder block drain tap below the carburettor and the fuel drain tap on the carburettor bowl

## LUBRICANTS

- Engine
  - Summer S.A.E. 50
  - Winter S.A.E. 30
- Gearbox S.A.E. 50
- Reduction Boxes E.P. 140
- Grease Gun Multi purpose Grease

## Oil Filter (engine) 60hrs.

Remove top and extract felt covered wire mesh element wash carefully in petrol and dry before replacing.

Use new cork ring and gasket each time use new element every 180hrs.

# Abridged Specification

## DAVID BROWN 30C

The increased capacity engine unit is substantially of the same design as the earlier tractor engine and the same maintenance instructions apply.

Special vaporization characteristics enable the pre-heater to be cut-out and the air intake drawn from a higher level through the pre-cleaner.

### Engine

Four stroke, four cylinder monobloc type with detachable cast iron wet type cylinder liners. Three bearing crankshaft with replaceable thin shell type white metal main and big end bearings.

Bore  $3\frac{3}{8}$  in. (92.1 mm.). Stroke 4 in. (101.6 mm.). Capacity 165 cu. in. (2,705 c.c.). R.A.C. H.P. rating 21.03. Governed working speed 1,600 r.p.m. Maximum governed speed 2,300 r.p.m.

*Brake H.P. Vaporizing Oil Engine* :—

30.7 B.H.P. at 1,600 r.p.m.

37.6 B.H.P. at 2,300 r.p.m.

Compression Ratio 4.7 : 1.

The alternative petrol engine is dimensionally the same as the vaporizing oil engine. The only differences are the pistons, carburettor jets and manifold.

*Brake H.P. Petrol Engine* :—

35.2 B.H.P. at 1,600 r.p.m.

41.0 B.H.P. at 2,300 r.p.m.

Compression Ratio 5.5 : 1.

### Valve Gear

Overhead, non-interchangeable inlet and exhaust valves, push rod operated.

Valve clearance HOT. Exhaust 0.022 in. Inlet 0.015 in.

Lift  $\frac{1}{8}$  in. Head diameters : inlet  $1\frac{1}{8}$  in., exhaust  $1\frac{3}{8}$  in.

### Valve Timing

Inlet valve opens 5° A.T.D.C., closes 35° A.B.D.C.

Exhaust valve opens 42° B.B.D.C., closes at T.D.C.

## ABRIDGED SPECIFICATION

### Manifold System

Normal one-piece type manifold with automatically controlled hot spot. Air intake pipe connected to pre-heater on exhaust manifold and provided with an adjustable sleeve to regulate amount of cold air drawn into the carburettor.

### Manifold

The vaporizing oil engine manifold incorporates an automatically controlled hot spot. A pre-heater is fitted to the vaporizing oil models.

### Carburettor

SOLEX F.V.30 VERTICAL.

Jet sizes petrol Main 110/51 Pilot 40 choke 24.

Jet sizes kerosene Main 115/57 Pilot 45 choke 24.

### Air Cleaner (with pre-cleaner)

Large capacity, oil bath type. Oil capacity,  $1\frac{1}{2}$  pints.

### Cooling System

Radiator, fan and water pump ; directed flow water cooling system with thermostat valve and radiator blind control. Temperature gauge fitted on dash panel. Capacity of system, 4 gallons.

### Lubrication System

Full pressure lubrication to all main and camshaft bearings supplied from a submerged gear type pump. Intermittent restricted feed to rocker shaft and valve gear controlled by engine speed. Full flow renewable element type oil filter incorporating by pass relief valve (15 lb./sq. in.) and main pressure relief valve (45 lb./sq. in.) Capacity of system 12 pints.

### Ignition System

Coil ignition, or Magneto (Lucas 4. V.R.A.). Automatic advance 30°. Points gap 0.012 in. Sparking plugs. Champion 18 mm. Com. 8. D.

### Ignition Timing

8° B.T.D.C. (Timing mark M on flywheel). Firing order, 1, 2, 4, 3. Plug gap, coil ignition 0.022 in., magneto ignition 0.030 in.

### Clutch

Borg and Beck single dry plate, type 10 A.6G.

### Gearbox (6-speed)

Three speed, twin range gearbox, giving six forward and two reverse speeds. The transmission, including the gearbox and differential unit, has a common lubrication system. Capacity of the transmission  $3\frac{1}{2}$  gallons. Dipstick level gauge on gearbox.

## GRANDMA'S MEMORIES:

### DELIVERING THE MILK

I lived on a 125 acre farm at North Rode in my young days, where we kept around 60 milking cows, yielding some 80 gallons of milk daily. This was sold to a dairy in Manchester - Dobson's Dairies at one time. The milk was delivered in five or six 17-gallon milk churns and sent by rail from North Rode station. The "milk train" was due at 7.45 am and this was the train my sister and I travelled on to attend Macclesfield High School, so we often had a lift to the station.

Helping us on the farm were three workmen and one woman who all "lived in" and my mother did all the cooking. As soon as the milking was finished in the morning - by hand, as there were no milking machines in those days - a horse would be harnessed to the milk float to take the milk to the station, about a mile and a half away.

I remember one especially severe winter when heavy snow had blocked the roads overnight, so the milk had to be taken across the fields. This was heavy going as one particular field was rather hilly and the horse had a real struggle through the deep snow. Wires had to be cut in the fence separating our land from the next farm so that the milk float could cross the "Cow Brook" at the flattest point. We, as children, found it very exciting, but rather frightening.

In the summer time, when there was a glut of milk, we would often receive a telegram saying "Keep your milk at home in the morning", then we would have to get busy making cheese. The most vexing thing was that sometimes after we had decided there would be no more telegrams and we had thoroughly cleaned and stored all the cheesemaking equipment in the attic, there would be another telegram and it all had to be brought into action again. Such were the trials of farming in the 1920s.

One farmer we knew was nearly always the last to arrive at North Rode station with probably seven churns to our five, and the guard on the train would hasten to blow his whistle and get the train off so as not to be late at Macclesfield station. This was the businessmen's express to Manchester from then on and we were fascinated to see the smart gentlemen with their briefcases jumping on to the train as it was beginning to move off. Sadly, North Rode station is no longer there.'

I. H. TAYERNOR 1994

Phone - SANDBACH 112.

**INVOICE**

December 23rd, 1946

Mr. W. Dean, Dairy Bank Farm, Astbury,

**WALTER WOOD & SON**

*Agricultural & General Engineers.*

All makes of Tractors  
and  
Tractor Implements  
Horse Implements

**ARCLID,  
SANDBACH.**

Sales and Service of Every Agricultural Machine.

Stationary Engines  
Barn Machinery  
Dairy Appliances and  
Milking Machines  
etc., etc.

23.12.46.

1. Fordson 'Major' Land Utility Tractor  
Std. Gears 4.3 with brakes.  
Engine No. D317689.

Delivery  
Oil.

296	0	0
6	0	0
2	5	9

Nett.

£	304	5	9
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*Paid with Cheques*

*Return.*

*Dec 27 1946  
pp. W. Wood & Son  
Keller Wood*



4	5	9
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£	300	.	.
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