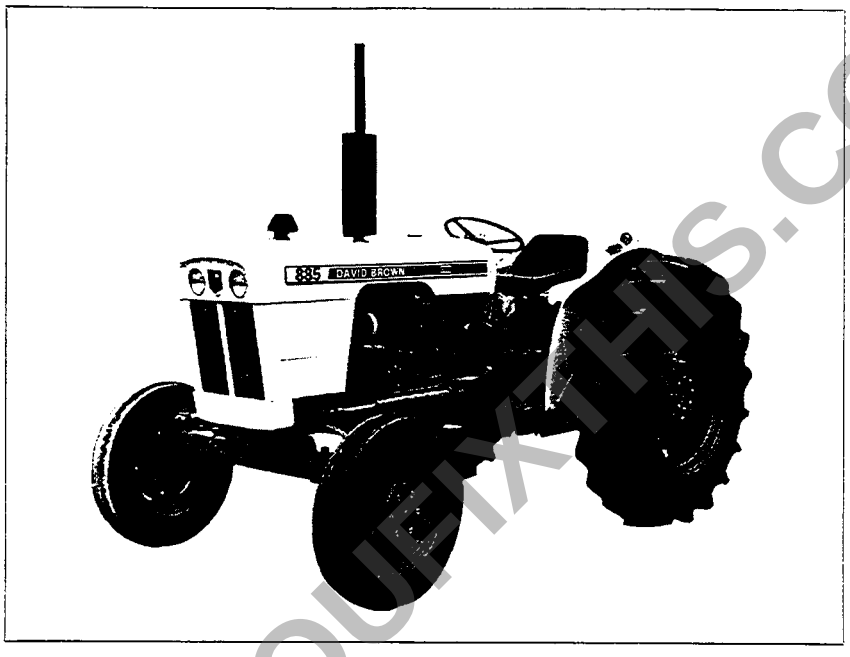



# DAVID BROWN

## Manual for Operators of 885 and 885N Tractors

### Standard, Highway and Narrow versions without Q-cab
### (For tractor with Q-cab, use the alternative manual Pub. 9-5203)

**David Brown Tractors Limited**
**Meltham · Huddersfield · England · HD7 3AR**

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## ⚠ SAFETY POINTS ⚠

**Always** lock the two foot brake pedals together when running on the highway.

**Always** ensure that PTO driven implements are not run faster than their designed speed, because a mechanical failure could occur, resulting in personal injury.

**Always** ensure the PTO (and belt pulley when fitted) is adequately guarded. Stop the engine before working on or near a PTO-driven implement.

**Always** remove loose clothing when working near moving parts of the tractor, engine and implements.

**Always** remove the isolating/starter key from the tractor when leaving it unattended, especially where children have access.

**Always** operate the steering and driving controls with care, for example :—

Don't swerve or turn sharply at speed.

Don't let the clutch in suddenly going up hill or the tractor may rear up.

Don't brake fiercely, especially going backwards down hill.

**Always** take extra care on steeply sloping ground. Move cautiously, as the sudden swing of a heavy implement, or pull of a trailer, could overturn the tractor.

**Always** make sure before turning that there is room for any mounted implement which will swing *outwards* at the rear.

**Always** hitch trailers to the approved drawbar or pick-up hitch which is below the centre line of the rear axle. Do not hitch above the centre line of the rear axle.

**Always** tow the tractor carefully. When towing by rope with a dead engine, power steering will be inoperative and the steering will be very difficult to turn.



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remove the breather pipe and oil trap, release the two hose clips and remove the bolts attaching the reservoir to the bracket. Remove the reservoir and plug the ends of the pipes. Remove the retaining bolt in the centre of the reservoir cover, lift off the cover, remove the spring, lift out the baffle and remove and discard the filter element. Wash the baffle and the inside of the reservoir with clean diesel fluid. Do not wipe with a cloth.

2. Reassemble with a new element, taking care when tightening the reservoir cover bolt not to over-tighten as this will damage the rubber sealing ring B, Fig. 5/24 and allow water to enter the reservoir.
3. Wipe the pipes clean and inspect for signs of leakage or damage. The flexible pipes must be free from kinks or cracks and steel pipes must not foul on each other or on any other parts.
4. Check the tightness of pipe unions, steering column bolts and the bolts attaching the ram anchor bracket to the main frame.
5. Put the front wheels in the straight ahead position. Fill the reservoir to 2cm (¾in) below the filler neck as shown in Fig. 5/24. Install the filler cap and use the following procedure to remove air from the system.

**Venting the system**

1. Jack up the tractor front so that the front wheels are raised clear of the ground. This will allow the system to operate at the lowest possible pressure.
2. With the fuel cut-off control in the Stop position, use the starter to turn the engine for 10-15 seconds to prime the pump. Then check the oil level and top up to the correct, level if necessary.
3. Start the engine and run at idling speed. Turn the steering wheel one full turn in each direction several times but do not allow the wheels to reach the full lock position.
4. Check oil level again and top up if necessary. With the engine running at idling speed, turn to full lock in either direction several times but do not hold the wheels in the full lock position for any length of time.
5. Lower the front wheels to the ground. Check the oil level with the wheels straight ahead and top up to the correct level. Drive the tractor at low speed in a figure-of-eight to check steering action. The steering should operate smoothly and without hesitation.



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# SECTION 2.
# THE SELECTAMATIC HYDRAULIC SYSTEM

## INTRODUCTION

The David Brown Selectamatic hydraulic system embodies the following advantages:

1. *Simple Control* — Lift, hold, drop, height position, depth position, TCU (weight transfer) and certain external hydraulic equipment are all controlled by a single hand lever.
2. *Simple change of system* — Selection is by a 3-position pointer.
3. *Easy control* — Depth and height settings are not affected by variations in engine speed. Finger Guides are provided for repeat settings.
4. *Livedrive hydraulics* — The pump is in the rear end of the tractor and drive to both the pump and the PTO-shaft is controlled by the second stage of the clutch pedal. As described earlier in this manual, the forward motion of the tractor can be halted by depressing the clutch through its first stage only, but without this affecting the drive to the pump.
5. *Easy service* — The control valve assembly is a single unit which can be bench tested before fitting. Only 3 simple adjustments are required after fitting to the tractor, only one of which requires the engine to be run.
6. *Variable drop* — The rate can be set by a handwheel and is not affected by the load. An override dump valve (optional) allows an extra fast drop when required.

## TRAILED IMPLEMENTS

The operation of the hydraulic systems on the following pages refers to tractor mounted implements or to external hydraulically operated equipment.

Where trailed implements are being used, the selector dial should be set to 'Height' or 'Depth' control and the links raised and secured on the lift latch. The hand lever may then be left in any position (except 'Select') without loading the hydraulic pump.

In certain countries, however, it may be possible to purchase a special hitch from your dealer to enable TCU to be used with trailed implements.



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Remove the dump valve (when fitted) and cover plate. Unscrew the right-hand of the two ⅝ UNF domed plugs (i.e. plug nearest fender) and withdraw the spring and plunger. Take care of the washer under the plug head. Unscrew the plug within the plunger and lift out the restrictor and filter. Clean the filter with a jet of air and re-assemble. Ask your dealer to show you the operation.

**Magnetic Plug** — Unless a live hydraulic take-off valve is fitted, remove the ¾ UNC plug, B, Fig. 4/10, clean the magnet attached to it and replace.

2. **Injectors** — If facilities are available, have the injectors tested for correct operation. Replace if satisfactory using new copper sealing washers. If below standard have them reconditioned by a David Brown or CAV agent.
   In the absence of checking facilities, submit the injectors for reconditioning if the tractor shows symptoms of black smoke, power loss or heavy fuel consumption.
3. **Valve Clearance** — Check and reset the valve clearances.
4. **Fuel Filters** — Renew the fuel filter elements and vent the system at least once a year (see page 77).
5. **Hydrostatic Steering** — Remove the old oil and filter, fit a new filter element and fill with new oil. Remove air from system. This is best done by your David Brown Dealer.
6. **Inspection** — Check over the tightness of external nuts, etc.
7. **Dynamo** (early tractors only) — Apply one or two drops of thin oil to the lubricating pad at the end of the dynamo. Replace the rubber plug.

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# SECTION 1. DESCRIPTION AND OPERATION—GENERAL

## INSTRUMENT PANEL

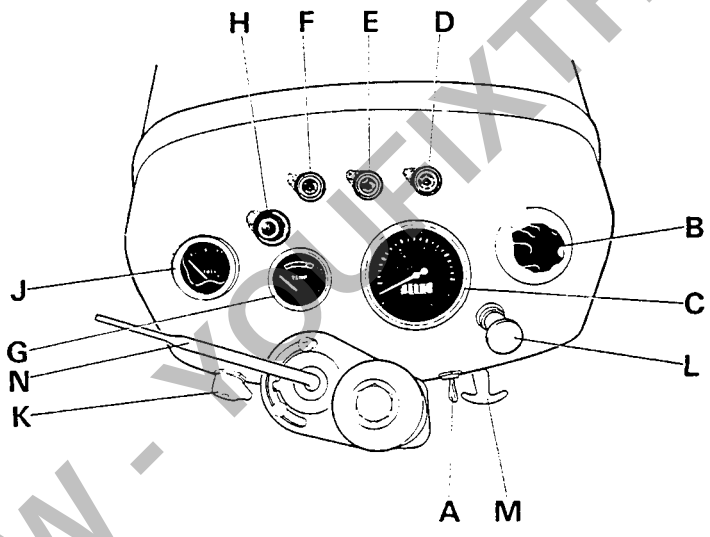



FIGURE 1/1. INSTRUMENT PANEL

*A. Isolating/Starter switch*
*B. Light switch*
*C. Engine speed indicator (or speedometer)*
*D. Charge warning light (red)*
*E. Engine oil warning light (green)*
*F. Transmission filter warning light (yellow)*
*G. Temperature gauge*
*H. Horn push button*
*J. Fuel gauge*
*K. Direction signal switch*
*L. Hazard warning lights switch*
*M. Engine stop control*
*N. Hand throttle*



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## FRONT TRACK ADJUSTMENT — 885 Narrow

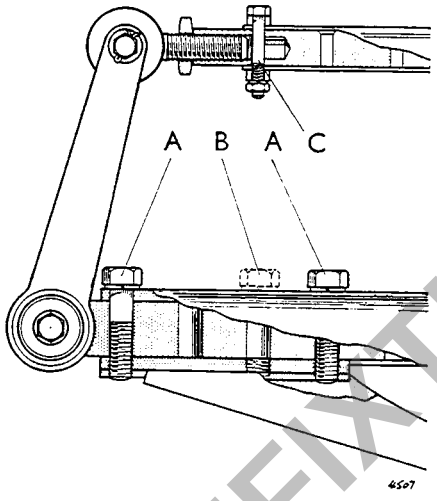



FIGURE 3/11. FRONT AXLE ADJUSTMENT – 885 NARROW

*A. Axle securing bolts*
*B. Inner bolt position*
*C. Track rod bolt*

The axle extension is secured by two bolts A, Fig. 3/11, screwed without nuts into threaded holes in the axle. The position B is used only for the widest setting. To adjust the track width, jack up the front axle, remove the adjustment nut and bolt C from the rod, remove completely the two bolts A, slide the axle extension to the required position, refit the bolts A with their spring washers and tighten them securely.

When both ends of the axle have been adjusted, refit the nut and bolt C on the track rod and adjust this to give the wheels a toe-in of 3mm (⅛in) measured at the edge of the wheel rim.

The range of track adjustment with 5·00-15 tyres is from 1,05 to 1,50m (41¼ to 59¼in) by 5cm (2in) steps on each side.

With 5·50-16 tyres the track is 2,5cm (1in) wider at each setting, the range thus being from 1,08 to 1,53m (42¼ to 60¼in).

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## FUSES

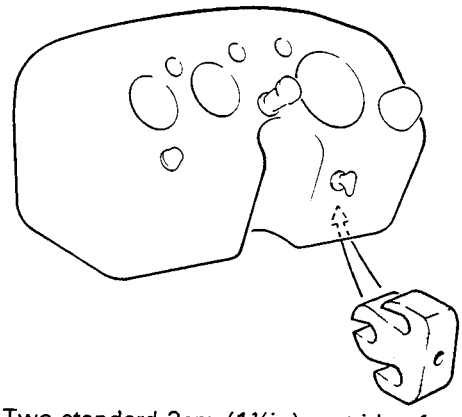


FIGURE 5/29.
FUSE HOLDER

Two standard 3cm (1¼in) cartridge fuses of 25 amp rating are fitted in a bayonet type holder, see Fig. 5/29. These fuses should not be replaced until the cause of blowing has been traced and the fault corrected.
Tractors fitted with hazard warning indicators have a third similar type fuse of 15 amp rating.

## DYNAMO (GENERATOR) (Early tractors only)

Apply a few drops of lubricating oil to the pad through the hole in the centre of the end cover after removing the rubber plug. Refit the plug afterwards.

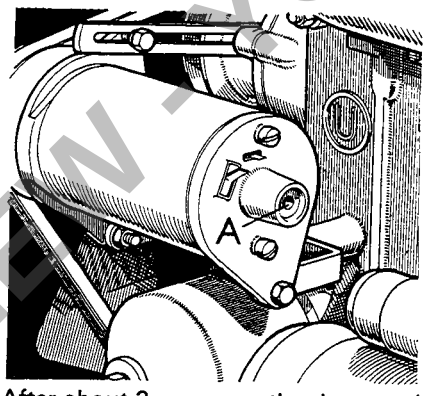



FIGURE 5/30.
DYNAMO (GENERATOR)
LUBRICATION

*A. Oil hole (replace rubber plug)*

After about 2 years use the dynamo (generator) brushes should be checked for wear and replaced if necessary. The interior of the dynamo (generator) should be thoroughly cleaned of dust and the bearings re-lubricated. This work is best carried out by your David Brown Dealer or Lucas Agent.
If for any reason the dynamo has to be renewed, ensure that the correct one for a negative earth system is used.



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## LEVERS AND PEDALS

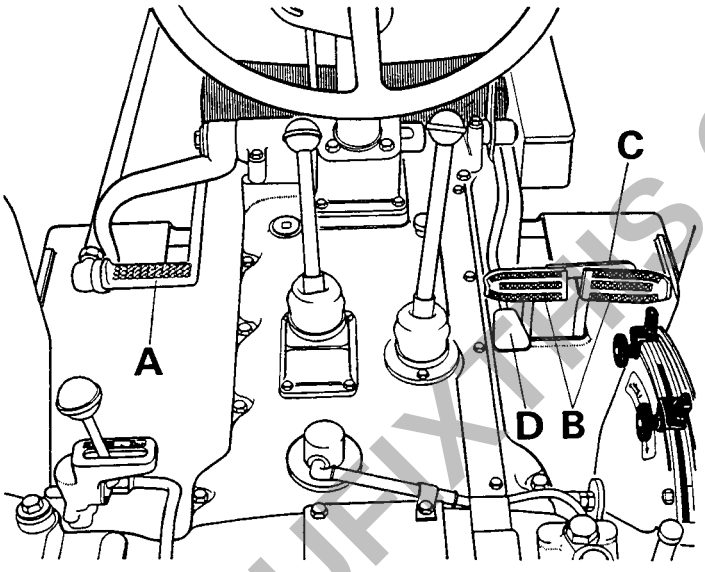



FIGURE 1/3. PEDALS

*A. Clutch pedal*
*B. Brake pedals*
*C. Locking bar*
*D. Foot throttle (not 885 Narrow)*

### Use of the throttles

The rated speed of the engine is 1800 r/min and may be set by observing the engine speed indicator. This speed should be considered the maximum for most purposes to conserve fuel and to prolong engine life. It also gives the standard PTO speed of 540 r/min.

The foot throttle will be found particularly convenient for road work and for jobs involving frequent gear changing, e.g. loader work.

To obtain the full range of engine speeds from the foot throttle, the hand throttle should be set to the idling position.

⚠ **DANGER** — Always engage the locking bar, C, Fig. 1/3, when driving on the road, when towing a trailer or when travelling fast. Use of independent brake or brakes badly out of adjustment will cause a dangerous swerve with the possibility of overturning the tractor.



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### Operation

Push the hand lever forward to the lower position. When the implement has reached its full working depth any required amount of TCU (weight transfer) may safely be applied by pushing the hand lever further forward. Maximum TCU is obtained when the hand lever is fully forward. When the correct amount of TCU has been determined, the second finger guide should be re-positioned into line with the hand lever for future reference.

At the end of furrow, pull the hand lever fully rearward past the spring-loaded stop. Release it when the implement has fully lifted. The hand lever will spring back to the hold position.

To avoid variation in depth, TCU should be maintained to the end of the furrow. In order to get proper penetration the hand lever should not be pushed forward to the TCU position until the proper working depth has been reached. On the other hand, application of TCU should not be delayed too long or wheel slip will occur before TCU becomes effective. Once wheel spin has occurred it is difficult to stop. The correct timing and anticipation of the required quantity of TCU is a matter of skill which comes very quickly with a little practice.

### Linkage adjustment when ploughing with TCU

Because of the different forces acting on the plough when using TCU a slight re-adjustment to the settings may be required.

1. The top (upper) link should be shortened slightly to counteract the tendency of the plough to ride out of the ground. It should, however, be used as long as possible consistent with obtaining the required depth.
2. To correct a tendency of the front furrow to become shallow, lengthen the right-hand levelling lever slightly.
3. On soft ground raise the depth wheel slightly to maintain the correct depth. (TCU takes the weight off the depth wheel and so it will not sink as deeply into soft earth as it would without TCU.)

### TCU with trailers and trailed equipment

In order to be able to apply TCU with implements such as trailed disc harrows, 4-wheel trailers, etc., a special hitch is available in certain countries. This transfers weight from the drawbar of the implement on to the rear wheels of the tractor.

Large equipment can therefore be used under more adverse conditions.

TCU is recommended for semi-mounted ploughs which must be equipped with suitable depth wheels. A hydraulic take-off valve will also be required to operate the rear depth wheel ram.



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# INTRODUCTION

We recommend that even the most experienced tractor user reads the Operation and Regular Maintenance sections of this book *before* commencing operations with his new tractor. The various tasks can in fact be performed by any but the complete novice, but this book details the easiest, quickest and most efficient ways of carrying them out.

The most important aspect, however, is *safety*, because a tractor can be a dangerous machine if handled without due caution. Knowledge gained beforehand from this manual can prevent accidents. Ensure therefore that it is made available to all your employees, and anyone else, before they are asked to operate the tractor, and that they fully understand all relevant aspects.

The 885 tractor is the culmination of many years of development and rigorous field testing. The 3-cylinder diesel engine and the Selectamatic® hydraulics have previously obtained remarkably successful results in field operation and in official tests. Subsequent improvements in these and other features have made the 885 an exceptionally reliable and efficient tractor. Finally, the incorporation of hand and foot throttle controls (except on the narrow tractor) and of the David Brown synchromesh gearbox, makes it as easy to handle as a family car.

A great deal of care goes into the building of every David Brown tractor. The engine is part run-in, the completed tractor is road tested and at each stage of assembly it is checked by a team of Quality Control Inspectors. The user can help to maintain this in-built quality by carrying out the simple tasks outlined in the Regular Maintenance chapter – Section 4. Neglect can lead eventually to major repairs which are expensive as well as time wasting.

It is a tractor which will amply repay the user provided that the simple maintenance routines are carried out regularly.

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