

1200 Selectamatic















Instruction Book

TP-638

Reprinted



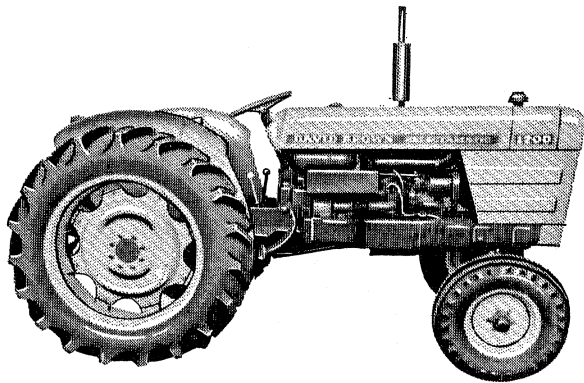
SAFETY POINTS

-  **Don't** operate the independent foot brake when travelling at high speed.
 -  **Don't** run on the highway without locking the two foot brake pedals together.
 -  **Don't** run the PTO or Belt Pulley without a guard.
 -  **Don't** wear loose clothing near moving parts of the tractor, engine or implements.
 -  **Don't** leave the isolating/starter key in the tractor when unattended, especially where children have access.
 -  **Don't** swerve or turn sharply at speed.
 -  **Don't** let the clutch in suddenly on a slope, or brake fiercely if running backwards down hill, or the tractor may rear up.
 -  **Don't** use the differential lock on the public highway.
 -  **Don't** try to make a sharp turn unless the differential lock is out of engagement.
 -  **Don't** operate the tractor on dangerously steep ground. Move cautiously on steep slopes, the sudden swing of a heavy implement, or the pull of a trailer, may cause trouble. Use the clutch, brakes, throttle and steering *slowly*. Beware especially of slippery surfaces.
 -  **Don't** carry passengers on the tractor or linkages.
 -  **Don't** turn with a projecting implement without making sure there is room for it.
 -  **Don't** hitch trailed implements above the centre line of the rear axle.
 -  **Don't** use the 52 in. (132 cm) front track width when a loader or power assisted steering is fitted.
-

DAVID BROWN

1200 Selectamatic Livedrive

INSTRUCTION BOOK



With 4-cylinder Diesel Engine

DAVID BROWN TRACTORS LIMITED
MELTHAM, HUDDERSFIELD, ENGLAND, HD7 3AR

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INTRODUCTION

The 1200 Selectamatic tractor with 4-cylinder diesel engine incorporates the latest refinements of technical design and is the culmination of many years of development and rigorous field testing. In fact, it is a tractor which does a wide range of farming jobs well, reliably and efficiently.

Good design is backed up by skilled manufacture on some of the most modern machines currently available in Europe. The potential life and efficiency which is built into the tractor by careful choice of materials, close manufacturing limits and expert assembly, requires the co-operation of the user whose responsibility it is to carry out the *regular* lubrication and maintenance outlined in this book.

Almost any but the complete novice will be able to carry out the various work which a tractor driver is required to do. But to do this in the easiest, quickest and most efficient way, not to mention the *safest* way because a tractor can be a dangerous machine if handled carelessly and without thought, requires knowledge and skills which have to be acquired. This book gives the necessary information, armed with which the user will quickly gain skill after a little practice.

It is suggested that time spent in reading the Operation and Regular Maintenance sections of this book *before* the new tractor is put into use, will be amply repaid. It is appreciated that the tractor will only be used occasionally for some tasks and the book should be kept readily available at all times so that one's memory may be refreshed. For ease of use the book is divided into 4 sections as indicated in the contents list opposite.

In case of difficulty of any kind, the person most fitted to assist you is your David Brown dealer. Besides having specialist knowledge of the product, he has a great experience of local conditions which will be especially useful to you. In any query always quote the full *prefix* and *serial number* of the tractor and also the *engine type* and *number*.

Note: A list of abbreviations used in this book is given on page 105.

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PRECAUTIONS WITH A NEW TRACTOR

Although every engine is tested and part run-in at the factory care should be taken during the first 25 to 50 hours' use. Avoid excessive speeds or heavy loading. Do not allow the engine to labour, change to a lower gear instead. Use the middle range of engine speeds from 1200 to 1800 rev/min. If possible use light loads to begin with and gradually increase the loading until the engine is fully run-in. If higher speed or heavy loading must be used, keep this down to very short periods interspersed with periods of light load.

Periods of idling should be avoided as the rate of carbon formation is fairly high at low temperatures.


FIFTY-HOUR SERVICE

It is essential that the 50-hour service detailed below is carried out at this time either by your David Brown Agent or, where this is not practicable, by the user's mechanic or service engineer.

After 50 hours, change the engine oil and filter element, drain and flush the transmission gearbox and final drive reduction housings. Fit a new full-flow filter element. Clean the Nylon filter in the by-pass valve plunger situated in the hydraulic control valve assembly. Refill with new oil. Check the valve clearances and tightness of cylinder head and main external nuts and bolts.

SECTION 1. OPERATION

STARTING THE DIESEL ENGINE

1. With fuel in the tank, pull the fuel cut-off rearward to the running position, and drop into the retaining slot.
2. Open the throttle (towards the driver).
-  3. **Put the gear (shift) lever in neutral** (the right-hand lever).
4. Depress the clutch pedal **fully**. An isolating switch is fitted so that the starter cannot be energised until the clutch pedal is pushed down.
5. Switch on and check that both charge and oil warning lights glow. (If not, investigate for a fault.) Then operate the starter switch (turn the key to the right against the spring).

Release the starter switch immediately the engine runs and close the throttle to give about 1000 rev/min to warm up. If the engine oil pressure warning light (green) stays on or comes on while the engine is running, stop the engine and investigate for loss of oil pressure, insufficient oil in the sump or a fault in the oil switch. If the charge warning light (red) stays on above 800 rev/min, investigate for an electrical fault. If the transmission oil filter warning lamp (yellow) stays on while the engine is cold, reduce the engine speed until it goes out. If the warning lamp lights at 1800 rev/min or less after the tractor has been running for 30 minutes, the filter element must be renewed even though it may not have completed 500 hours service.

If the engine fails to run after the starter has been engaged for 25 seconds release the ignition switch and wait 20 seconds before trying again otherwise the battery will be overheated and damaged.

Short attempts of engaging the starter will be of no avail.

STARTING IN COLD WEATHER

In cold conditions the cold start button on the fuel pump should be pressed in. This should be done prior to starting the engine. The button will only remain in if the throttle is open sufficiently. When the engine starts the button will be thrown out automatically.

STOPPING THE ENGINE

Reduce engine speed, lift the fuel cut-off and allow it to move forward to the stop position. Switch off and remove the key.

STOPPING THE TRACTOR

Reduce travel speed by closing the throttle and apply the foot brakes. Just before the tractor comes to a halt, disengage the clutch and stop the engine. Apply the handbrake securely and park the tractor in a low gear ratio. To prevent accidental starting, ensure that the isolating key is removed and the fuel cut-off is in the 'stop' position.

CONTROLS

The engine and tractor controls are shown in Fig. 1/1 to 1/3.

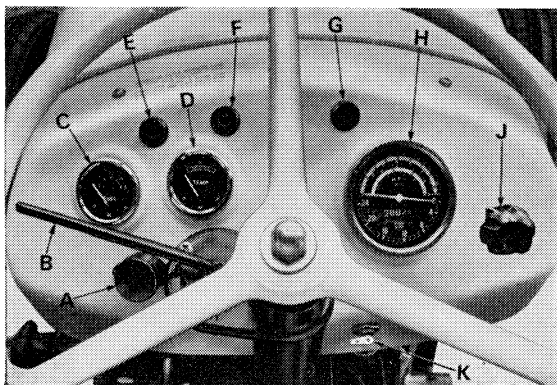


FIGURE 1/1. INSTRUMENT PANEL

- | | |
|---|--|
| A. <i>Horn button</i> | F. <i>Oil pressure warning light (Green)</i> |
| B. <i>Throttle lever</i> | G. <i>Charge warning light (Red)</i> |
| C. <i>Fuel gauge</i> | H. <i>Engine speed indicator</i> |
| D. <i>Water temperature</i> | J. <i>Light switch</i> |
| E. <i>Filter warning light (Yellow)</i> | K. <i>Ignition/starter switch</i> |

HYDRAULIC FILTER WARNING LAMP

When the fall in pressure across the full flow filter element in the hydraulic system is high enough to open the valve and allow oil to by-pass the filter element, the yellow warning lamp illuminates. This may occur (a) when the filter element is blocked with dirt and requires changing for a new one or (b) when the oil is cold and engine speed is high.

It is also arranged to light when the isolating switch is turned on and the driver should check that the bulb is intact each time before starting the engine. A faulty bulb should be replaced as soon as it fails.

If the bulb glows or flickers at idling speeds, this should be ignored.

The warning lamp may illuminate at less than full engine speeds when the oil is cold. The engine speed should be adjusted so that the light is not kept on for more than a few minutes otherwise proper filtering of the oil will not take place.

When the filter element becomes blocked with dirt it will be found impossible to run the engine at high speeds, even when the oil is warm, without the warning lamp illuminating.

When the bulb lights at 1800 rev/min after a warming up period of 30 minutes the full flow filter element **must** be changed for a new one at the first opportunity.

OIL WARNING LIGHT

The green light is illuminated when oil pressure is too low. Ensure that it lights when the isolating switch is turned on and goes out when the engine runs.

NO CHARGE WARNING LIGHT

The red light is illuminated when the isolating switch is turned on but should extinguish as soon as the dynamo commences to charge.

THROTTLE CONTROL LEVER

When fully rearwards the diesel engine is governed to its maximum speed. The rated speed of the engine is 1800 rev/min and may be set by observing the tractorometer. This speed should be used for most purposes to conserve fuel and engine life. It also gives a PTO speed of 532 rev/min in low gear.

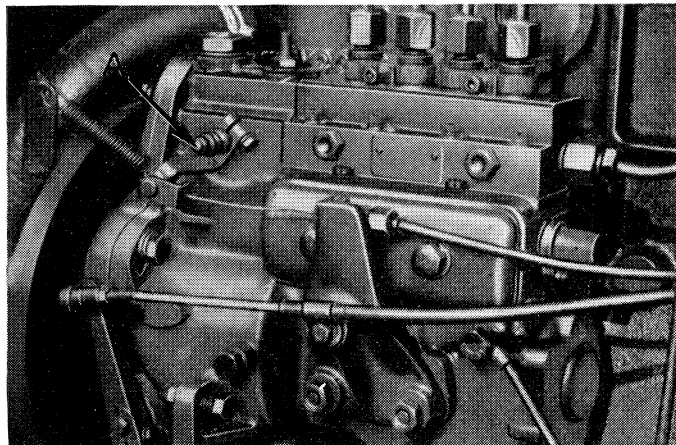


FIGURE 1/2. FUEL INJECTION PUMP

A. Cold starting button

STARTING BUTTON

When starting from cold, the button A, Fig. 1/2 should be pressed in, making sure that the throttle is open wide enough to ensure that it stays in. When the engine runs up to speed

the button will automatically eject ready for future use. It is not necessary to use this button when re-starting unless the engine has had time to cool off completely.

FUSE HOLDER

Situated on the control panel on early tractors and later fitted in the wiring near the regulator under the right-hand side of the instrument panel. The two halves should be pressed together and twisted to release. A 25 amp glass cartridge fuse is fitted.

LIGHT SWITCH

This has 4 positions, and depending on whether single or double filament headlamps are fitted, gives the following positions.

<i>Single filament</i>	<i>Double filament</i>
1. Off	1. Off
2. Side and Tail*	2. Side and Tail*
3. Side and Tail*	3. Side, tail and head (low beam)*
4. Side, tail and head*	4. Side, tail and head (high beam)*

*The rear plough lamp may be switched on by its own switch in these positions

EXHAUST BRAKE (Optional fitting)

When stopping with a heavily loaded trailer or controlling the speed on a steep descent, the exhaust brake should be used to provide additional retardation from the engine. To obtain maximum effect and prevent excessive internal pressures in the engine, the throttle must be closed **before** pressing the exhaust brake pedal.

TRANSMISSION CLUTCH

Pushing the clutch pedal down interrupts the drive to the gearbox without affecting the drive to the power take-off (PTO).

The pedal should always be pushed down past the point at which the transmission is freed. "Easing" of the clutch to reduce forward speed, when baling, etc., to allow the implement to clear a heavy patch, is detrimental to clutch life.

When moving off with a loaded trailer, engine speed should be kept as low as possible. Full engagement of the clutch should be obtained as quickly as is possible without stalling, **then**, the throttle opened. The clutch should not be operated at full engine speed or excessive wear will result.

BRAKES

Twin foot pedals at the right-hand side give independent control of the brakes to assist steering in confined spaces. To ensure full braking power on the road, the locking bar F, Fig. 1/3 should be used on the highway. However, the balance of the braking system should be checked each week or whenever the tractor is taken on the road after working extensively where one brake is used much more than the other for turning at headlands, etc. If this precaution is not taken, an unexpected and dangerous swerve may occur.

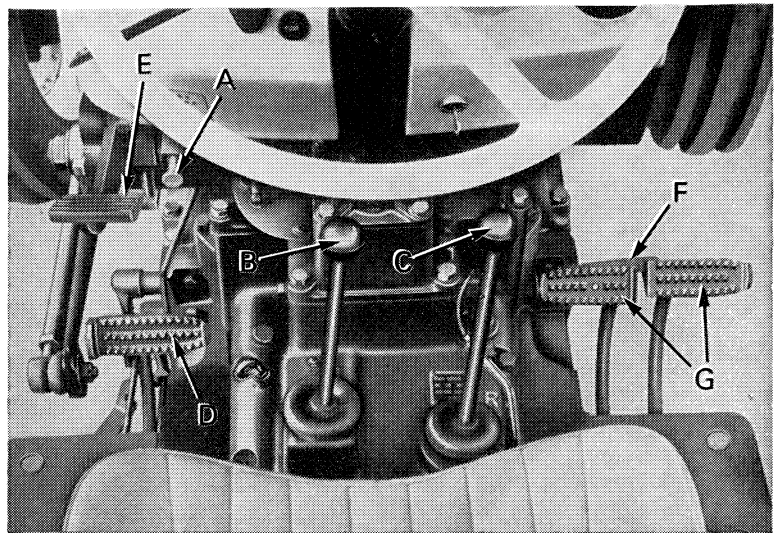


FIGURE 1/3. CONTROLS

- | | |
|------------------------|------------------------|
| A. Engine stop control | E. Exhaust brake pedal |
| B. H/L range lever | F. Locking bar |
| C. Gear lever | G. Brake pedals |
| D. Clutch pedal | |

PTO CLUTCH

Drive to the power take-off shaft at the back of the tractor is controlled by the hand lever on the left of the operator. When fully forward, the clutch is engaged and the PTO will be driven independently of the drive to the tractor rear wheels. To disengage the PTO at the ends of rows, to change PTO speed, or for other short term uses, the lever should be pulled rearwards into the latched position.



The PTO hand clutch lever must not be retained for long periods in the latched position. Instead, the PTO speed change lever should be placed in neutral and the hand lever released to re-engage the clutch.

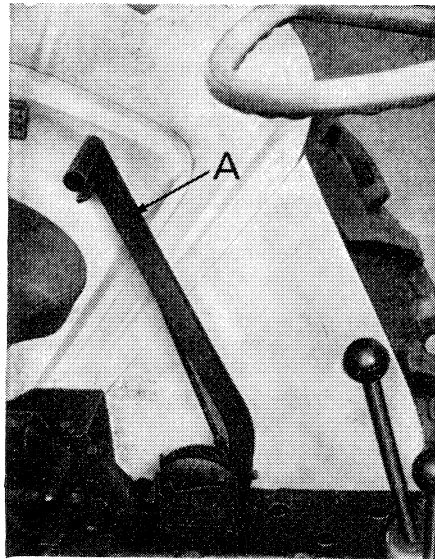


FIGURE 1/4.
PTO CLUTCH

A. *PTO clutch
release lever*

ENGINE SPEED INDICATOR

The engine speed indicator fitted to the instrument panel should be used in conjunction with the chart attached to the bonnet (hood).

The travel speed in any gear can be obtained by reading the engine speed on the indicator and transferring this to the bottom line of the chart. The speed can be read off where a vertical line projected upwards crosses the required horizontal gear line.

Alternatively any travel speed in an appropriate gear can be projected downwards and the necessary engine speed determined. The throttle can then be set to give the required engine speed as observed on the engine speed indicator.

The vertical red lines indicate the engine speed to be set to obtain standard PTO speeds of 540 or 1000 rev/min in high PTO ratio. The blue line shows the setting for 540 rev/min in low PTO ratio. Any desired travel speed may be obtained

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