624, 724 and 824 Diesel Tractor

Operators Manual

1090316R1

Reprinted

CASE

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SAFETY RULES

Caution is the most effective safeguard against accidents.

When the tractor is pulling power equipment, make sure that all power line shielding is in place and in good order. When the pto is not in use, the guard cap Illust. 13 must be fitted.

Never mount, or dismount from a tractor when it is in motion.

Never refuel the tractor while the engine is running or extremely hot. Do not smoke or use an open flame when working around inflammable fuels.

When in-doors or in built-up areas observe prevailing fire regulations for combustion engines.

When leaving the tractor, make sure the gearshift lever is in neutral position and the handbrake is applied.

Be sure the gearshift lever is in neutral before starting the engine.

Never allow any person to ride on the drawbar or on the rocker arms of the hydraulic lift.

Be sure, before operating the hydraulic lift, that everybody is well clear of rocker arms and linkage.

Allow the engine to cool off before removing the cap to fill the radiator.

Never use the steering brakes for making turns on the highway.

Be extra careful when applying the brakes on slippery roads. Drive slowly.

Always see that brakes and lighting are in good working order.

Careless use of the tractor and other farm machinery is the cause of most farm accidents. With your co-operation these accidents can be prevented.

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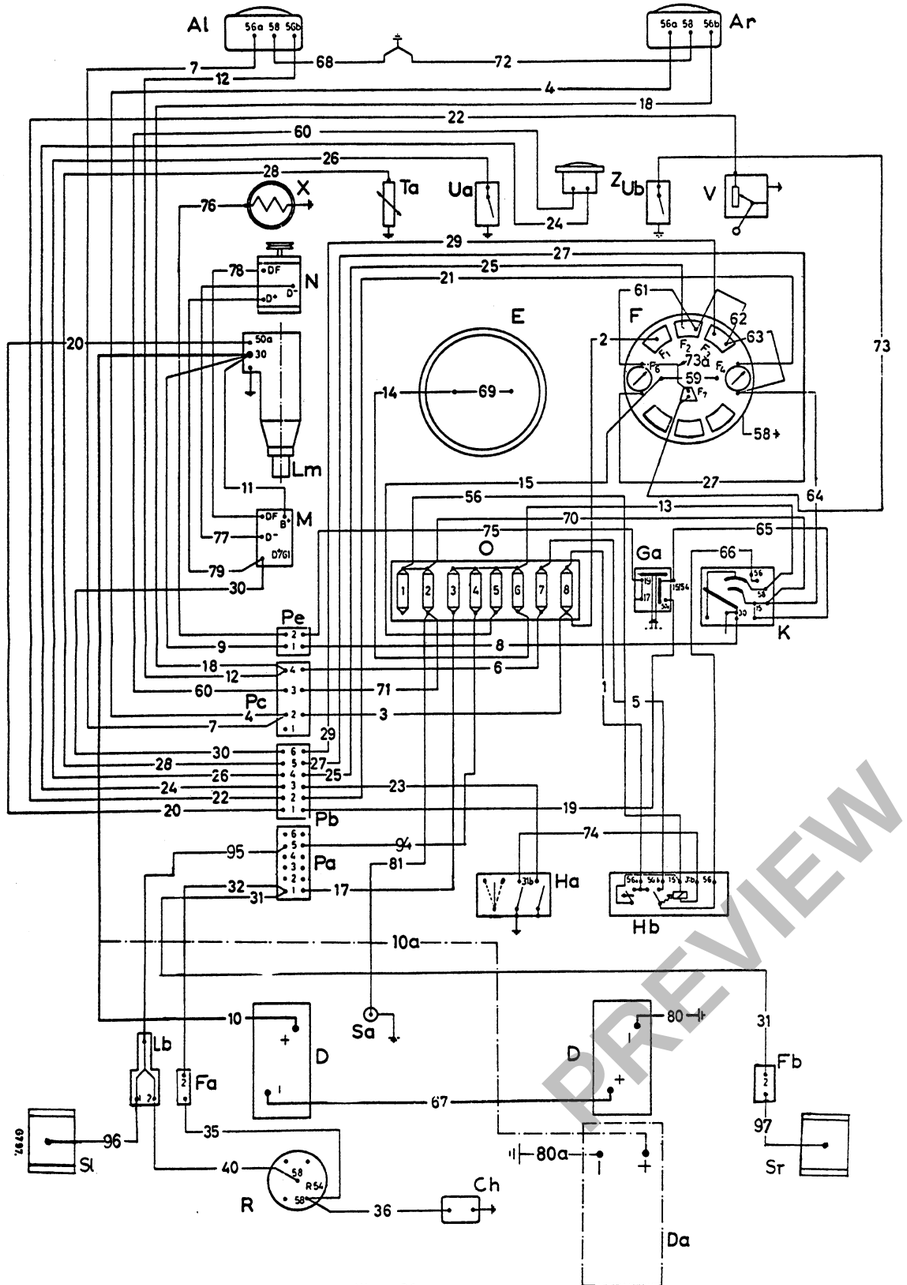
	624
Engine	D 206
	4-cylinder 4 cycle Diesel with direct injection and pressure feed lubrication
Rated speed	2100 rpm
Low idle speed	650 - 750 rpm
Max. idle speed	2310 rpm
Max. Torque at 1600 rpm	147 ft lbs
Piston displacement	206 cu. in.
Cylinder bore	3.87 in.
Stroke	4.37 in.
Firing order	1 - 3 - 4 - 2
Compression ratio	16:1
Injection timing - static	10° BTDC
Valve clearance (engine warm)	
Intake valve	.010 in.
Exhaust valve	.012 in.
Storage battery	one 12V 135 Ah or 2 of 6V 88 Ah
Nozzle holder	Bosch KBL 90S 104/4
Injection nozzles	Bosch DLL 150S 2641
Injection pressure	2910 - 3024 PSI
Injection pump	Bosch EP/VA4/100H 1050 BR8
Starting motor	Bosch 1.8 HP or 4 HP
Generator	Bosch 11 Amp. or 16 Amp.
* Capacities	US gal
Engine crankcase	2.1
Transmission case -	
Standard	11.3
Agriomatic - S	10.0
Hydraulic lift housing	4.4
Planetary final drive	.98
Oil - bath air-cleaner	.26
Fuel tank	18.5
Cooling system	4.1
Front tires (standard)	7.50 x 16
Rear tires (standard)	16.9 x 30
Dimension (with standard tires)	
Length overall	131.6 in.
Width overall	71.5 in.
Height overall	62.0 in.
Min. ground clearance	16.0 in.
Turning radius	156 in.
(with steering brakes applied)	136 in.
Engine clutch	Dual Disk - 11 in.
Engine speed at 540 Pto	
Pto shafts	540 rpm and 1000 rpm
Pto speed at rated engine speed	
Tire pressure	On Road / In Field
Front wheels	28 psi / 21-28 psi
Rear wheels	21 psi / 11-14 psi

* U.S. gallons x .8333 = Imperial gallons

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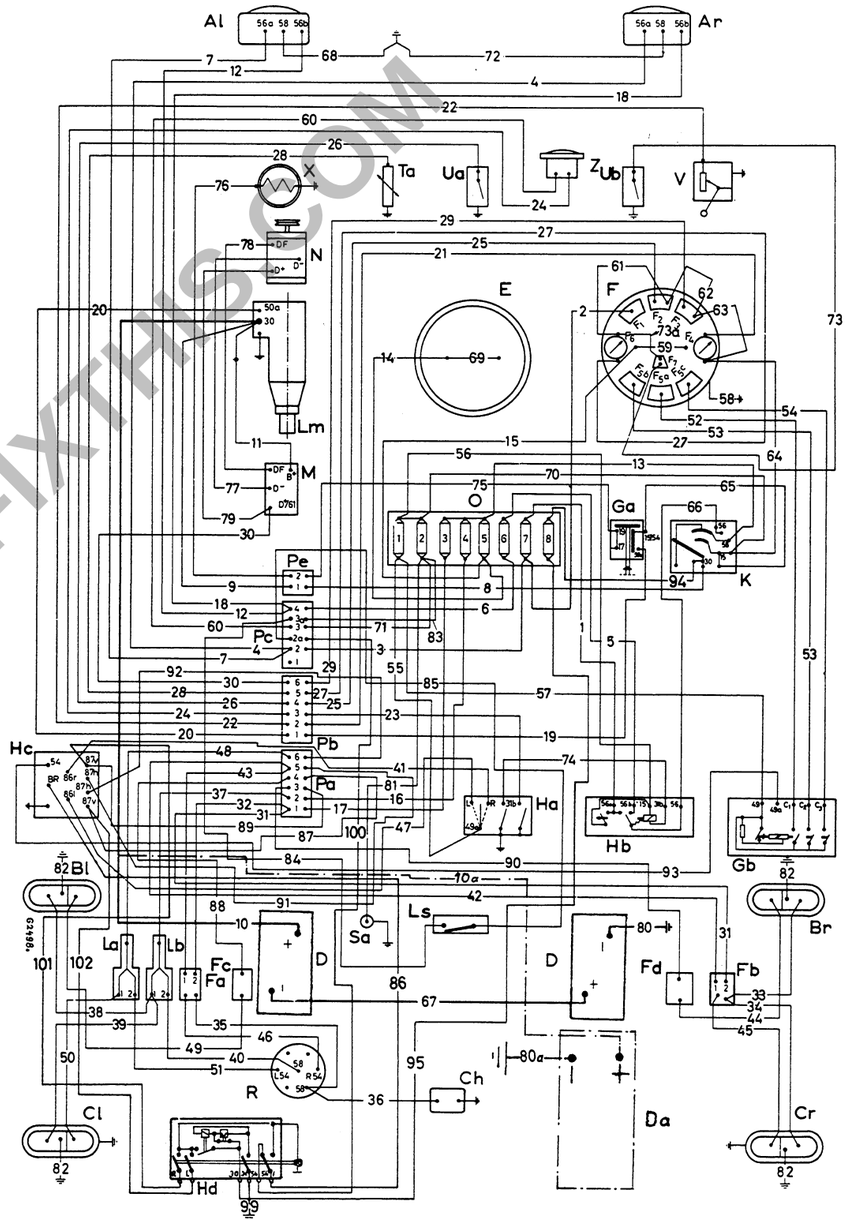
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+ Wiring diagram for tractors with standard equipment



Illust. 61

++ Wiring diagram for tractors equipped with brake- and directional signal lights



Illust. 62

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MAINTENANCE

Periodic Servicing Schedule	Lubrication Guide Reference Number
After every 10 hours of operation	
Crankcase, check oil level, Page 35	16
Radiator, check coolant level, Page 30	
After every 50 hours of operation	
Greasing	1, 3, 4, 8
Pre-cleaner of air cleaner, clean, Pages 29, 30	20
Fuel filter, drain water, Page 33	
After every 200 hours of operation	
Greasing	5 - 7
Draft and position control reservoir, check oil level, Page 39	21
Transmission case, check oil level, Page 37	14
Clutch and brakes, check and readjust, Page 40	
Storage battery, check electrolyte level, Page 43	
Engine and fuel system, check for leakage	
V-belt, check tension, Page 31	
Air cleaner oil cup, change oil, Page 29	20
Crankcase, change engine oil, Page 35	16
Engine oil filter, replace element, Page 36	17
After every 400 hours of operation	
Powershift transmission, clean suction strainer, Page 39	13
Restrictor valve, clean, Page 38	
After every 800 hours of operation	
Draft and position control reservoir, change oil, Page 39	21
Draft and position control suction strainer, clean, Page 39	19
Draft and position control, replace auxiliary filter, Page 40	23
Planetary final drives, change oil, Page 38	9
Transmission case, change oil, Page 36	11
Transmission case, replace by-pass oil filter, Page 37	24
Front wheel bearings, clean, readjust and grease, Page 42	
Fuel filter, replace element, Page 33	15
Retighten all bolts, nut unions, etc.	

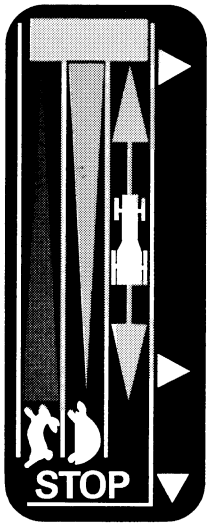
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Road range (blue)
1 - slower
* - central
2 - faster
N - stop

Field range (green)
1 - faster
* - central
2 - slower
N - stop

Reverse range (red)
1 - forward
* - central
2 - reverse
N - stop



Illust. 7

Schematic diagram of relative travelling speed when shifting into the powershift range

*Caution! Do not use central position (*) to stop your tractor.

In position 1 Illust. 6, travelling speed is gear-dependent only, i.e., it does not change when shifting the range lever. In the reverse range 1 is forward, 2 is reverse. These directional changes are made at low throttle without operating the foot clutch.

Between positions 1 and 2 there is a central position (*) in which no drive is transmitted to the rear wheels. Caution! Do not use this central position (*) to stop the tractor. Be sure to put the transmission out of gear and apply handbrake before leaving the tractor seat.

In the field range the tractor cannot be stopped in position *. This is advantageous when power shifting becomes necessary under heavy pulling conditions, as for example, when plowing, etc. A smooth change over is thus made possible without interrupting the power-flow.

When shifting to position N = Neutral, no power is transmitted to the driving wheels and the tractor stops. The engaged power take-off shaft will, however, continue to operate. This feature is especially useful for clearing overloaded or choked power-driven machines such as combines, balers, etc.

In position "N" the lever is not held in place by a poppet. When released the lever automatically returns to position 2 and the tractor resumes travel.

Differential Lock

The differential lock is used to connect the driving wheels as though mounted on a common shaft. It is applied to increase the tractor pull in the field when the slippage at one wheel is greater than at the other one.

The foot pedal for controlling the differential lock is located on the right side next to the pto shifter lever, see (5) Illust. 14. To engage the differential lock depress pedal (5) all the way to its bolt stop and hold it there. On releasing the pedal the differential is automatically unlocked.

Use the differential lock only for short spells to pass over slippery spots. Never use the differential lock when making turns.

OPERATING THE TRACTOR

Running-in Period

It could be said that the way a new tractor is operated and maintained during the first 100 operating hours will mark the machine for either a short or a long service life.

In order to obtain best "breaking-in" results on pistons, bearings, transmission components. etc. tractor and engine must not be subjected to full load or speed, during this critical period. Experience has shown that gradually increasing the load with alternating engine speeds is the best way of introducing a new tractor to a long and satisfactory service life.

Preparing for Each Day's Work

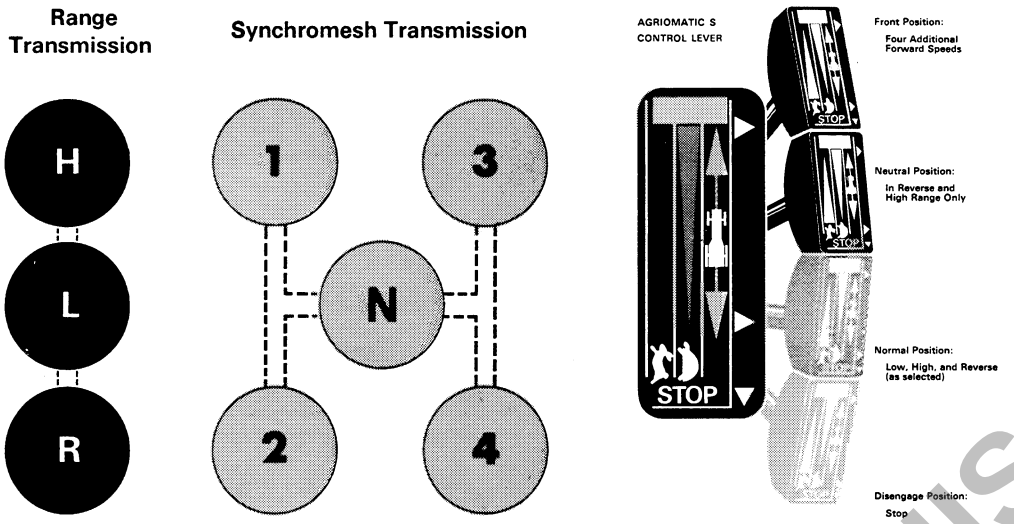
Before starting on your daily run, check crankcase oil level, coolant level and hydraulic oil level in the draft and position control housing and top up, if necessary. Also check brakes before driving away. Under very dusty conditions empty the dust bowl of the pre-cleaner and change oil in the cleaner cup.

Starting the Engine

Open fuel shut-off valve, handle parallel to feedline. Place hand throttle (8) Illust. 3 in idle position. Insert switch key (1) Illust. 9 and turn to position "1". Charge control lamp and oil pressure control lamp must light up.

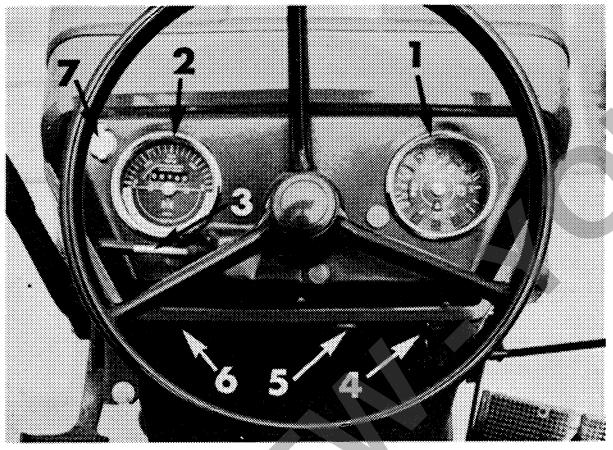
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INSTRUMENTS AND CONTROLS

Instruments



Illust. 1

1 - Instrument cluster
2 - Tractormeter
3 - Dimmer switch and horn control
4 - Light switch
5 - Glow starter switch
6 - Fuse box
7 - Accessory outlet

Tractormeter (2)

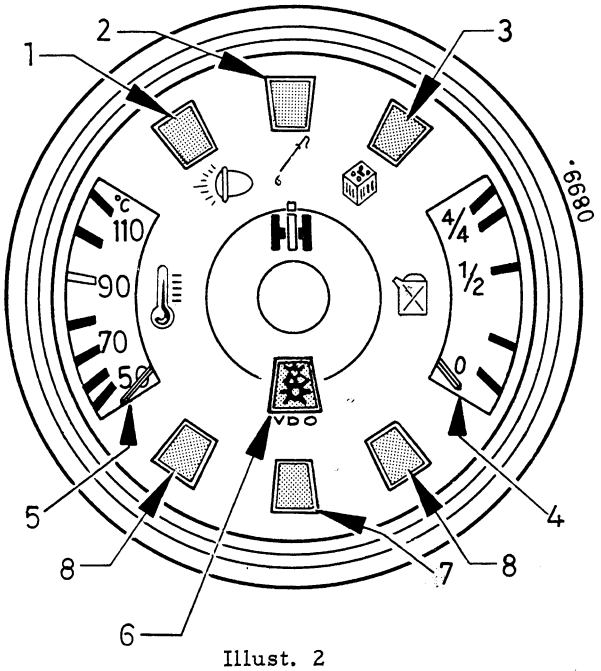
Combines hourmeter, engine revolution counter, and travelling speed indicator in one instrument. (Travelling speed indicated in highest gear only).

Instrument Cluster (1)

This instrument combines all control lamps, the fuel indicator and coolant temperature indicator which are identified by respective symbols to make them self-explanatory, see Illust. 2.

Oil Pressure, Engine (2)

As soon as the engine is started and picks up speed, control lamp (2) Illust. 2 must go out. If the lamp continues to glow or lights up during operation, stop the engine immediately. Check crankcase oil level. Also refer to "Trouble Shooting Chart" and eliminate the fault.



Illust. 2

1 - Headlight control lamp, blue
2 - Oil pressure, engine, green
3 - Charge control lamp, red
4 - Fuel indicator
5 - Coolant temperature indicator
6-7-8 - Not used in tractor application

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