Alternator

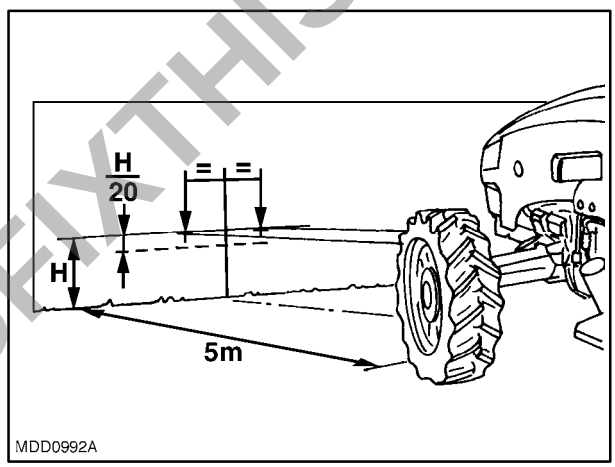
The alternator guarantees maximum battery charge. It does not need special maintenance, as it is brush−free, but does require certain precautions.

- When assembling the battery, make sure that the poles to earth on the battery and the alternator are marked in the same way.
  If the battery poles are inverted, the diodes will short circuit the battery.
- **Never** run the alternator without the system connected.
  If the battery is disconnected, the voltage may become dangerously high, creating an electric shock hazard on the alternator output pole.
  Before carrying out checks on the tractor, make sure that all connections are secured.
- Never short circuit or ground one of the alternator poles, as this will damage the electrical system.
- Never invert the alternator polarity. It is extremely important that the battery and alternator ground poles have the same polarity, in order to avoid damaging the diodes.
- Never carry out arc welding without having disconnected the alternator leads.

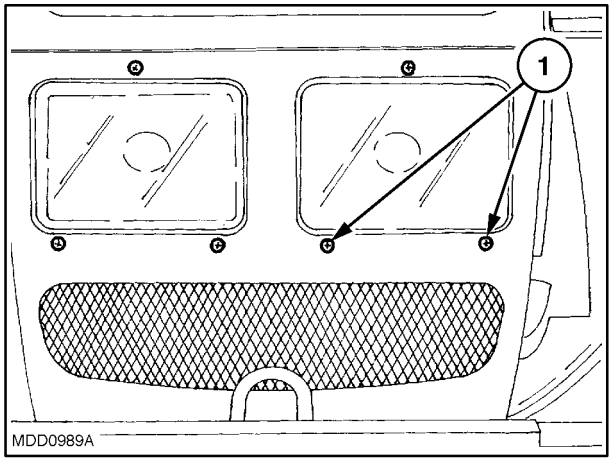
Headlight adjustment

When in transit on the public highway, the tractor must conform to the current regulations of the Highway Code. It is therefore advised to check the angle of the headlights regularly, proceeding as follows:

- unload the tractor and inflate the tyres to the specified pressure on level ground in front of − if possible − a shaded white wall and mark two crosses on the wall a the same level as the centre of the headlights;
- reverse the tractor by about 5 metres;
- check the divergence with the headlights on full beam. The centre of the beam of each headlight must be on the same line, vertically, as the previously marked cross. A maximum external divergence of 130 mm (5.12 Inch) is permitted;
- check the angle with the headlights on full beam. The separating line between the shaded zone and the illuminated zone should be below the two crosses by at least $^{1}/_{20}$ of the distance between the crosses and the ground;
- to adjust the headlights, use the screws (**1**) fig. 49.



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LUBRICATION AND MAINTENANCE TABLE

The numbers in the second column are with reference to the operations and illustrations in the following pages of this section.

Hours worked	Operation number	Maintenance operation	Fill−up level	Cleaning	Adjustment	Replacement	Functional check	Page
Flexible maintenance (4)	1.	Engine oil level	X					4−7
	2.	Transmission and rear final drives oil level	X					4−7
	3.	Front axle	X					4−8
	4.	Front axle axial clearance			X			4−8
	5.	Battery	X					4−9
	6.	Miscellaneous checks					X	4−9
	7.	Fan belt			X			4−10
	8.	Cooling system expansion tank	X					4−10
	9.	Dry air filter external cartridge		X				4−11
	10.	Fuel filter		X				4−12
	11.	Engine clutch pedal			X			4−12
	12.	Brake pedals			X			4−13
	13.	Handbrake			X			4−13
	14.	Power take−off clutch lever			X			4−14
	15.	Windscreen washer reservoir	X					4−14
	16.	Cab air filter		X				4−15
	17.	Compressor belt			X			4−15
	18.	Condenser		X				4−16
	19.	Air conditioning filter/dryer						4−16
Every 250 hours of work	20.	Engine oil level				X		4−17
	21.	Engine oil filter				X		4−17
	22.	Transmission oil filter, hydraulic circuit and steering circuit (3)				X		4−17
Every 500 hours of work	23.	Engine valves			X			4−18
	24.	Fuel filter				X		4−18

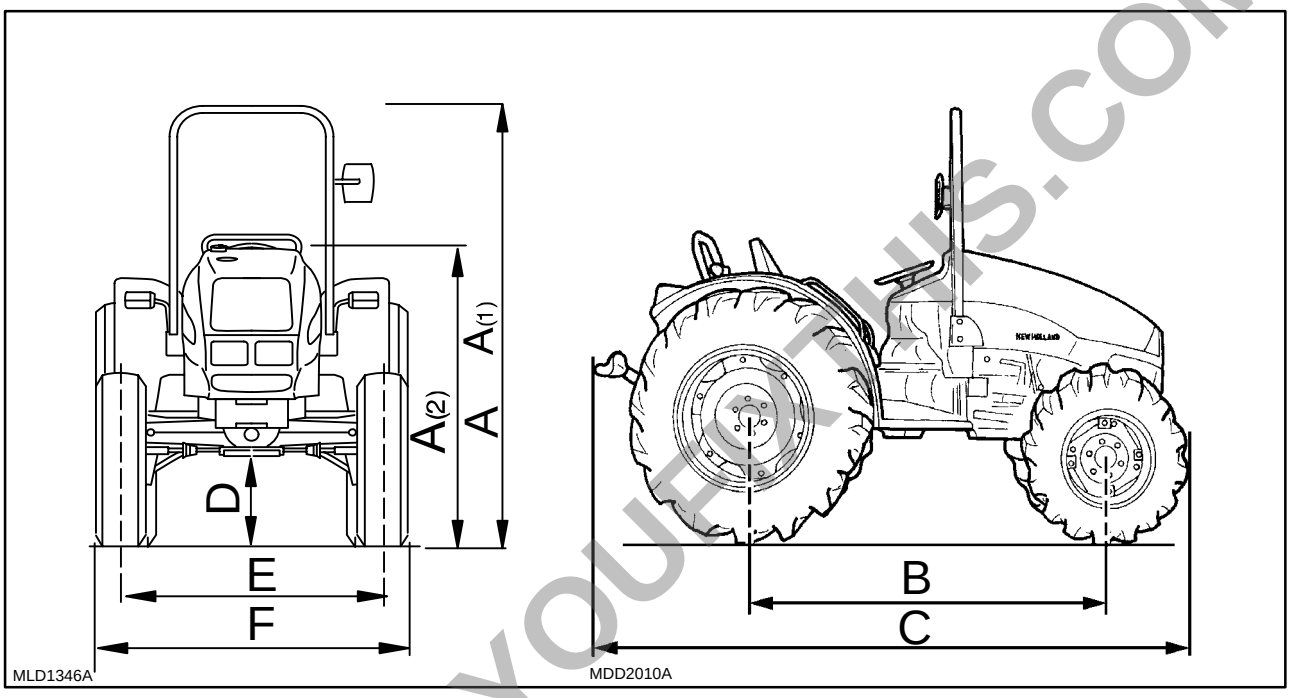
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SECTION 6
SPECIFICATIONS AND DATA

The data on the following pages is provided for your information and guidance. For further details concerning your tractor, contact your dealer.

TRACTOR DIMENSIONS WITH ROLL BAR



1

Dimensions	T3010	T3020	T3030	T3040
With tyres: Front . . . . . . Rear	 200/70R 16 320/70R 20	 240/70R 16 360/70R 20	 280/70R 16 360/70R 24	
A. . . . . . mm **A(2).** Height at steering wheel . mm	1900 to 2000 (74.80 to 78.74) 1260 (49.60)	1900 to 2000 (74.80 to 78.74) 1290 (50.78)	1900 to 2000 (74.80 to 78.74) 1310 (51.57)	
B. Wheel base . . . . . mm	1700 (66.92)			1760 (69.29)
C. length. − without ballast . . . . . mm − with ballat . . . . . mm	2950 (116.14) 3300 (131.01)			3010 (118.50) 3360 (132.28)
D. Ground clearance under front axle . . . . . mm	340 (13.38)	370 (14.56)	405 (15.94)	
E. Front wheel track . . . . . mm	1016 to 1304 (40 to 51.33)	1107 to 1357 (43.58 to 53.42)	1104 to 1354 (43.46 to 53.30)	
E. Rear wheel track . . . . . mm	1004 to 1192 (39.52 to 46.92)	1032 to 1262 (40.62 to 49.68)	1032 to 1306 (40.62 to 51.41)	
F. Width: Minimum . . . . . mm Maximum . . . . . mm	 1322 (52.04) 1510 (59.44)	 1380 (54.33) 1610 (63.38)	 1384 (54.48) 1658 (65.27)	

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STARTING AND STOPPING

CAUTION

Before starting the engine and moving the tractor, follow the instructions noted below:

- *all controls must only be operated **sitting correctly** at the driving position;*
- *before starting the engine, check that all controls are in neutral;*
- *do not start or operate the tractor in an enclosed area;*
- *switch off the engine before carrying out any kind of maintenance operations;*
- *make sure that all covers and guards are correctly in position;*
- *when in transit on the public highway, respect all traffic regulations.*

STARTING THE ENGINE

CAUTION

Check that the safety device only allows the engine to be started with the shuttle and PTO levers in the neutral position.

A. Check that the shuttle, main gear, range gear and creeper (if fitted on your tractor), levers are in the neutral position.

B. Move the PTO independent/synchronised selection lever to the neutral position.

C. Move the hand throttle lever to approximately the half−way position.

D. Fully lower the clutch pedal.

E. Turn the starter key to the START position (**D** fig. 2 page 3−3). Release the key as soon as the engine starts and move the hand throttle lever to an idling speed of 700/800 rpm.

STARTING IN LOW OUTSIDE TEMPERATURE CONDITIONS

NOTE: *When the outside temperature is low and the engine is cold, you are advised to proceed as follows when starting:*

- *Wait at least one minute between attempts to start the engine.*
- *It is advisable not to make more than six attempts to start the engine to avoid excessive battery run−down.*

CAUTION

Do not inject fluids (ether) to facilitate starting at low temperatures. The tractor is equipped with a cold starting system.

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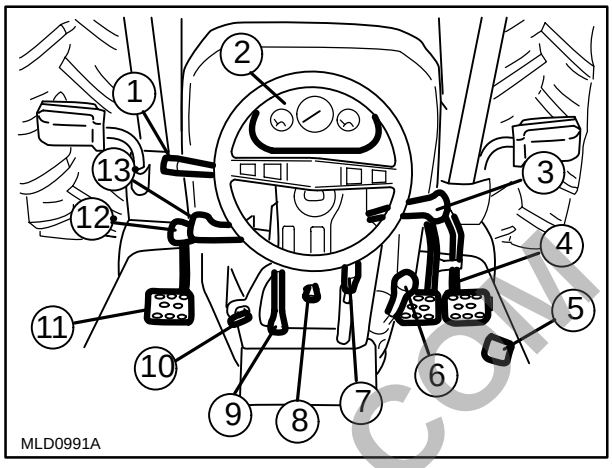
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CONTROLS

NOTE: *for correct use of the controls, see the "Use" chapter.*

FRONT ZONE CONTROLS − Fig. 3

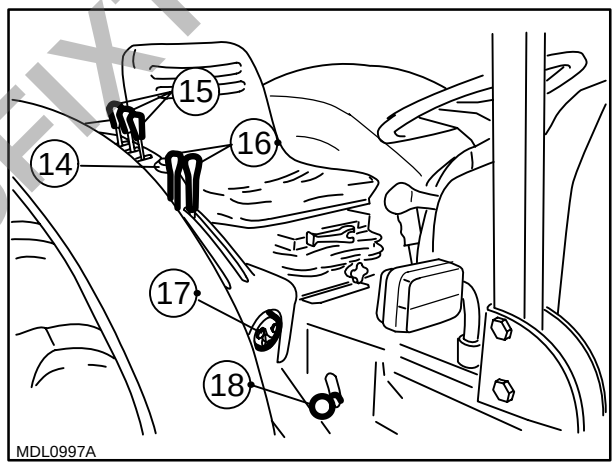
1. Lights/horn switch.
2. Analogue instrument panel.
3. Gear selection lever.
4. Brake pedal.
5. Accelerator pedal.
6. Range selection lever: (Slow − Normal − Fast).
7. PTO clutch lever.
8. Steering wheel adjustment lever.
9. Hand throttle lever:
   UP − Maximum;
   Down − Minimum.
10. Starter switch.
11. Clutch pedal.
12. Independent PTO or proportional travel PTO engagement lever.
    Forward − Independent PTO;
    Central − Neutral;
    Back − proportional travel PTO.
13. Shuttle lever.



3

RIGHT−HAND SIDE CONTROLS − Fig. 4

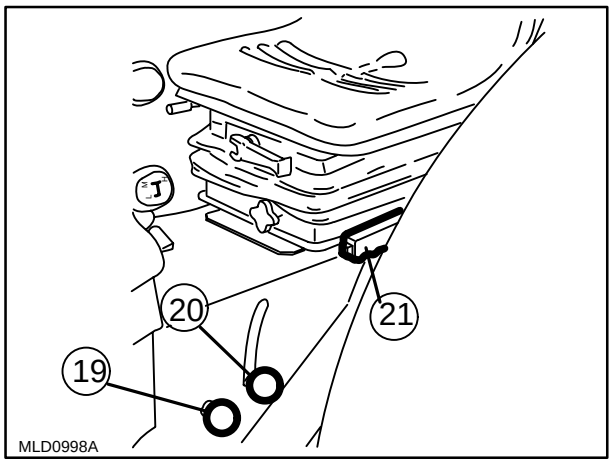
14. Differential lock switch.
15. Remote control valve levers.
16. Hydraulic lift levers.
17. Hydraulic lift sensitivity adjustment lever.
18. Creeper lever.



4

LEFT−HAND SIDE CONTROLS − Fig. 5

19. 4WD engagement lever.
20. 540/540E rpm PTO speed selection lever.
    UP − 540 rpm.;
    DOWN − 540E rpm.
21. Handbrake lever.



5

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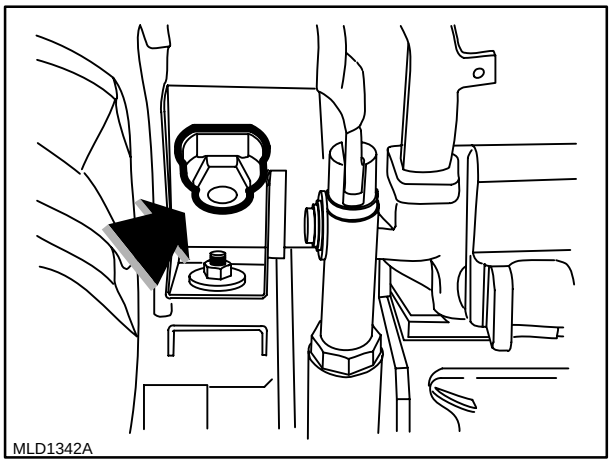
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ENGINE

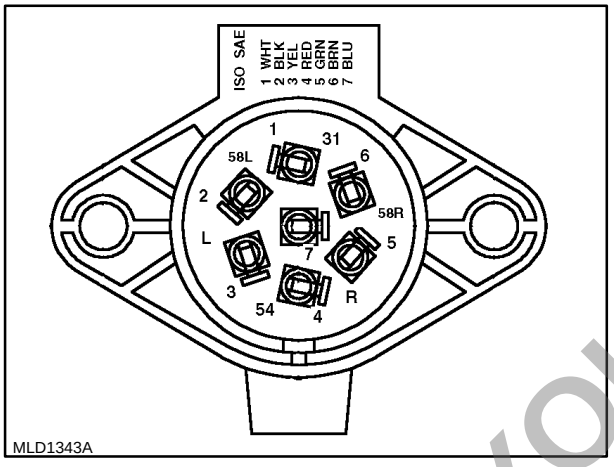
PROBLEM	POSSIBLE CAUSE	SOLUTION
The engine will not start or starts with difficulty	Incorrect starting procedure	See starting procedure
	Fuel level low or empty	Check fuel level
	Air in fuel system	Bleed fuel system
	Engine oil viscosity not right	Use oil of right viscosity
	Fuel not suitable for ambient temperature	Use correct type of fuel for temperature conditions
	Fuel system contaminated	Clean system
	Fuel filter clogged	Replace filter element
	Fuel injector fault	Contact your dealer
The engine does not run properly and/or cuts out	Fuel system contaminated	Clean system
	Fuel injector fault	Contact your dealer
Engine does not reach maximum power	Engine overload	Change to lower gear or reduce load
	Air filter clogged	Carry out maintenance on air filter
	Incorrect fuel type	Use the right fuel
	Low engine operating temperature	Check thermostat
	Fuel injector fault	Have your dealer check the injectors

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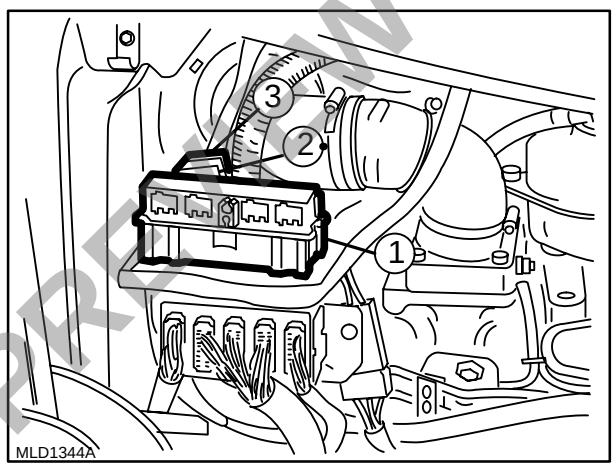
51

7 pole power socket for trailers − Figs. 50 and 51

The 7 pole power socket (**1**) to connect the trailer lights circuit is located on the rear of the tractor.

Connections − Fig. 51

1. Left−hand turn signal.
2. Not used.
3. Ground.
4. Right−hand turn signal.
5. Right−hand tail lights.
6. Brake lights (STOP).
7. Left−hand tail lights.



52

Safety fuses T3010, T3020 AND T3030 MODELS − Fig. 52

The tractor electrical system is protected from short circuits and excessive current absorption by fuses, located in fuseboxes. The number of fuses in the electrical system depends on the tractor version.

The fusebox is located under the engine bonnet on the right−hand side.

1. Main fusebox
2. 40A fuse
3. 60A fuse

The list of the protected circuits is shown on the following page.

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Hours worked	Operation number	Maintenance operation	Fill−up level	Cleaning	Adjustment	Replacement	Functional check	Page
Every 1000 hours of work (1)	25.	Injectors			X			4−19
	26.	Transmission oil, power steering, lift (2)				X		4−19
	27.	Front axle oil				X		4−20
	28.	Fuel tank		X				4−20
	29.	Starter motor					X	4−21
	30.	Cab air filter					X	4−21
	31.	Dry air filter				X		4−21
	32.	Engine cooling system		X				4−22
	33.	Front power take−off				X		4−23
General maintenance								4−24
Electrical system								4−24
Recommendations for bodywork maintenance								4−31
Tractor storage								4−32
Consumables table								4−33

NOTE: *(1) Operations to be carried out once a year.*

(2) Change the transmission oil after the first 500 hours of work and, following this, after every 1000 hours of work.

CAUTION

(3) To protect the steering circuit, change the hydraulic clutch intake filter after the first 50 hours of work. Following this, change the filter after every 250 hours of work.

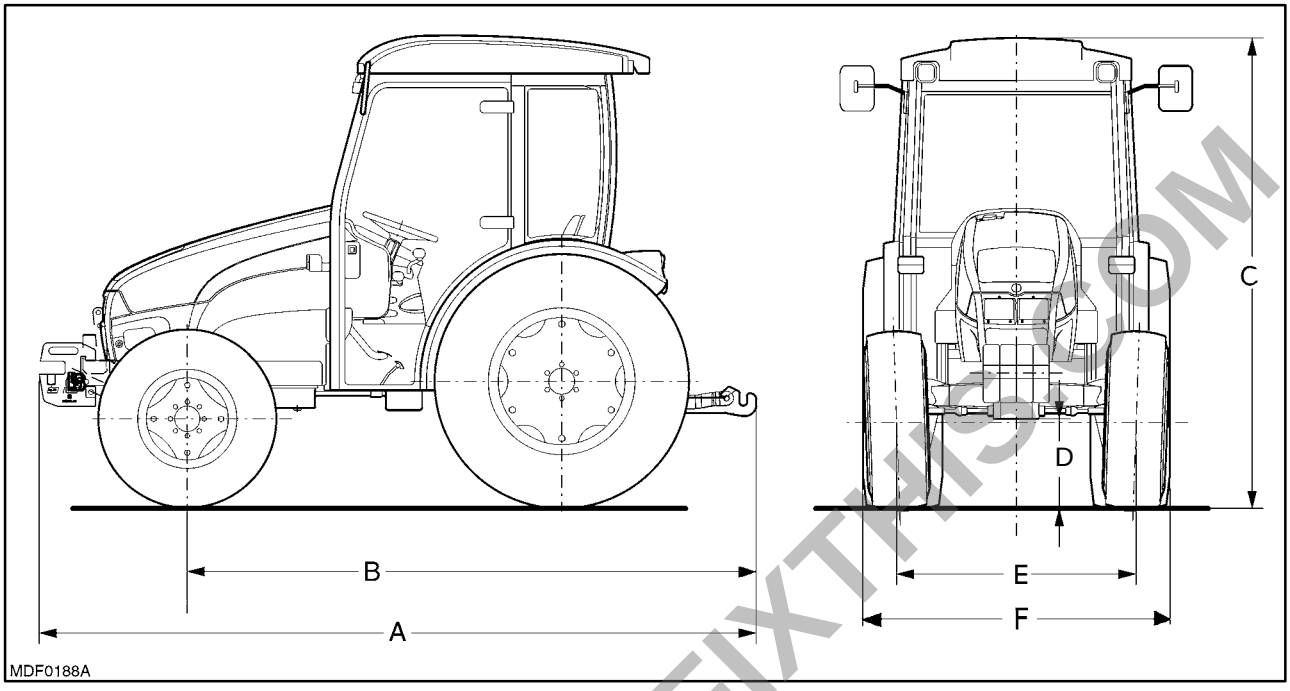
CAUTION

(4) Routine maintenance operations must be made flexible, according to the judgement and experience of the operator, with regard to work and environmental conditions. It is advised to check all maintenance requirements frequently.

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TRACTOR DIMENSIONS WITH CAB



1

Dimensions	T3010	T3020	T3030	T3040
With tyres: Front . . . . . . Rear	200/70R 16 320/70R 20	240/70R 16 360/70R 20	280/70R 16 360/70R 24	
A. length. without ballast . . . . . mm with ballat . . . . . mm	2950 (116.14) 3300 (131.01)			3010 (118.5) 3360 (132.28)
B. Wheel base . . . . . mm	1700 (66.92)			1760 (67.32)
C . . . . . mm	2055 to 2150			
D. Ground clearance under front axle . . . . . mm	340 (13.38)	370 (14.56)	405 (15.94)	
E. Front wheel track . . . . . mm	1016 to 1304 (40 to 51.33)	1107 to 1357 (43.58 to 53.42)	1104 to 1354 (43.46 to 53.30)	
E. Rear wheel track . . . . . mm	1004 to 1192 (39.52 to 46.92)	1032 to 1262 (40.62 to 49.68)	1032 to 1306 (40.62 to 51.41)	
F. Width: Minimum . . . . . mm Maximum . . . . . mm	1322 (52.04) 1510 (59.44)	1380 (54.33) 1610 (63.38)	1384 (54.48) 1658 (65.27)	

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STARTER SWITCH

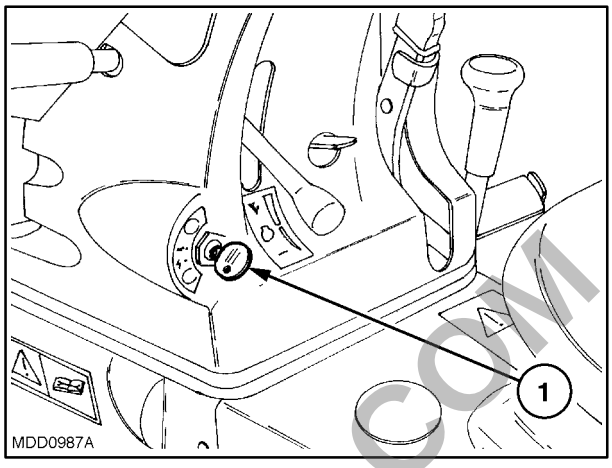
To obtain the three key switch (**1**) functions turn the key to the following positions:

A. No power supply to any of the circuits (key can be removed). The engine is switched off.

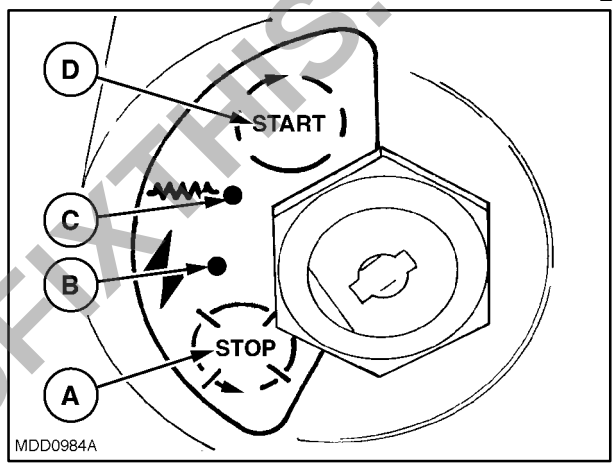
B. Standby for engine start up. Operation of panel lights and instruments. Power supplied to various circuits.

C. Pre−heating position for starting in cold climates. (For further details see STARTING WITH A THERMOSTARTER below).

D. Starts the engine. When released, the key will automatically return to position **B**.



1



2

STARTING WITH A THERMOSTARTER

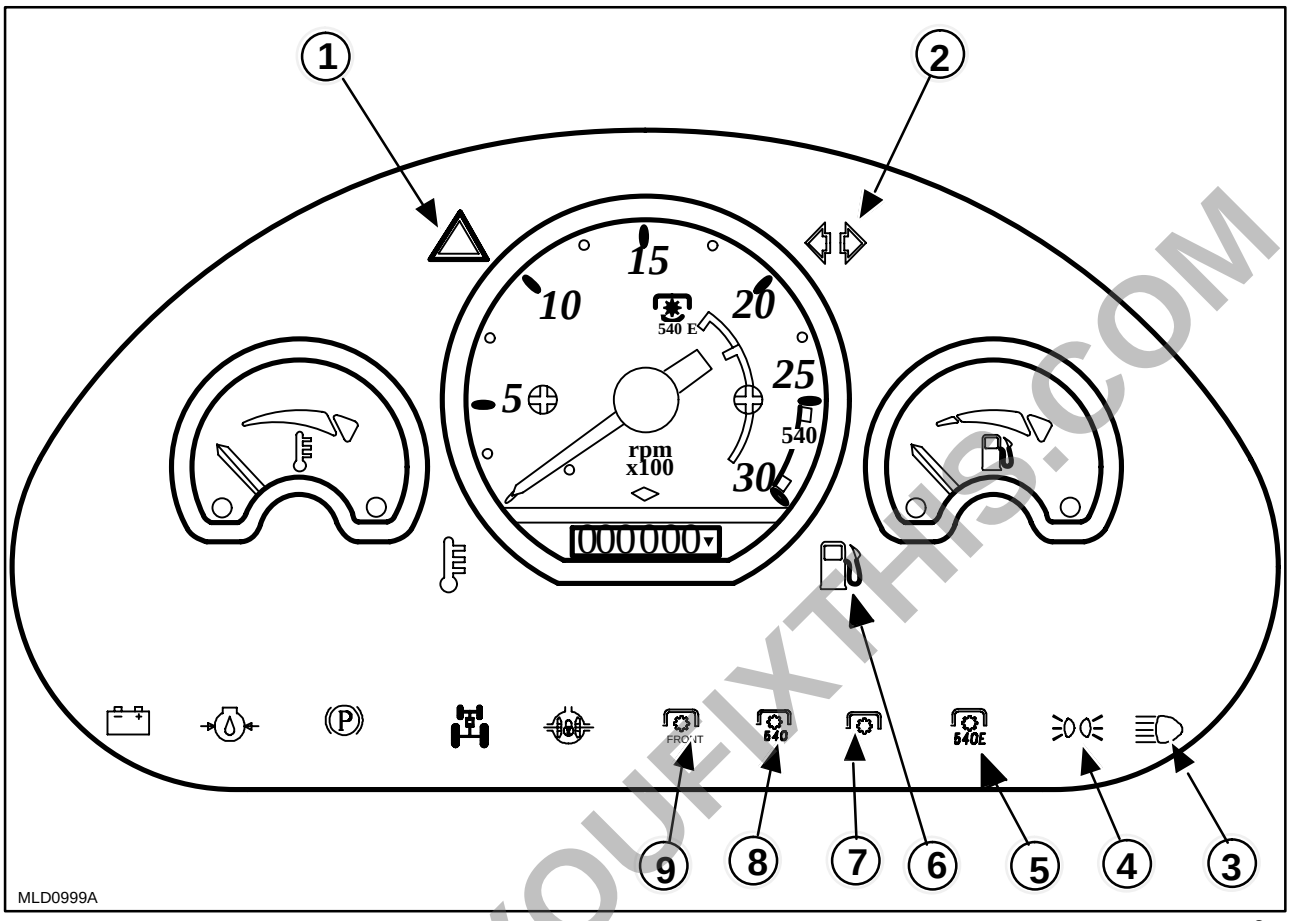
In cold climates start the engine as follows:

- *Carry out operations **A**, **B**, **C**, **D** as previously described on page 3−2;*
- *Turn the starter key to the pre−heating position, wait 10 seconds then turn the key to the engine START position. When the engine starts release the key.*
- *If after approx. 8−10 seconds the engine has not started, return the key to the pre−heating position, wait for another 10 seconds and then try to start−up again.*
- *If the engine does not start, restart the pre−heating cycle.*
- *If, after two or three attempts the engine has not started, and black smoke is noted coming from the exhaust, start the engine without using the thermostarter.*
- *Do not try to start the engine for more than 10 seconds at each attempt (key in START position), in order to avoid overheating the windings.*
- *Wait at least 3 minutes between attempts to start the engine.*
- *It is advisable not to make more than six attempts to start the engine to avoid excessive battery run−down.*

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ANALOGUE INSTRUMENT PANEL



6

1. General warning light (RED).

Lights up together with the battery recharge, low engine pressure, handbrake engaged and high coolant temperature red lights. The light is on with the key in the contact position, but should switch off when the engine is running and the handbrake is disengaged.

2. Direction indicators light (GREEN).

3. Full−beam lights ON (BLUE).

4. Side lights ON indicator (GREEN).

5. 540E PTO indicator (ORANGE).

Lights up when the 540E rpm PTO is selected.

6. Fuel reserve indicator (ORANGE).

Lights up when there is approx. 8 litres of fuel remaining in the fuel tank.

7. Rear PTO indicator (ORANGE).

Lights up when the rear PTO is engaged.

8. 540 rpm PTO indicator (ORANGE).

Lights up when the 540 rpm PTO is selected.

9. Front PTO indicator (ORANGE).

Lights up when the front PTO is engaged.

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ENGINE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine does not reach maximum power	Valve clearance wrong	Check and adjust
	Idling speed too low	Contact your dealer
Abnormal engine knocking	Oil level low	Top up fluid level
	Oil pressure low	Contact your dealer
Low engine operating temperature	Thermostat malfunction	Replace thermostat
Oil pressure low	Oil level low	Add oil as required
	Oil grade or viscosity wrong	Drain and refill with oil of correct grade and viscosity
Excessive oil consumption	Oil level too high	Reduce oil level
	Oil viscosity wrong	Use oil of correct viscosity
	Oil leaking	Repair leaks
	Breather pipe filter clogged	Replace breather pipe filter
Engine overheating	Radiator core clogged	Clean
	Engine overload	Change to lower gear or reduce load
	Engine oil level low	Top up fluid level
	Coolant level low	Top up fluid level in expansion tank. Check system for leaks
	Radiator cap defective	Replace cap
	Fan belt slipping or worn	Check tensioning device. If necessary, replace the belt

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