FUSES AND RELAYS (Version with cab)

⚠ DANGER ⚠

If electrical system relays need to be changed, check that correct spare parts are used and that they are fitted in the correct positions. The use of structurally or functionally different relays – even if interchangeable – could seriously compromise tractor control with dangerous results.

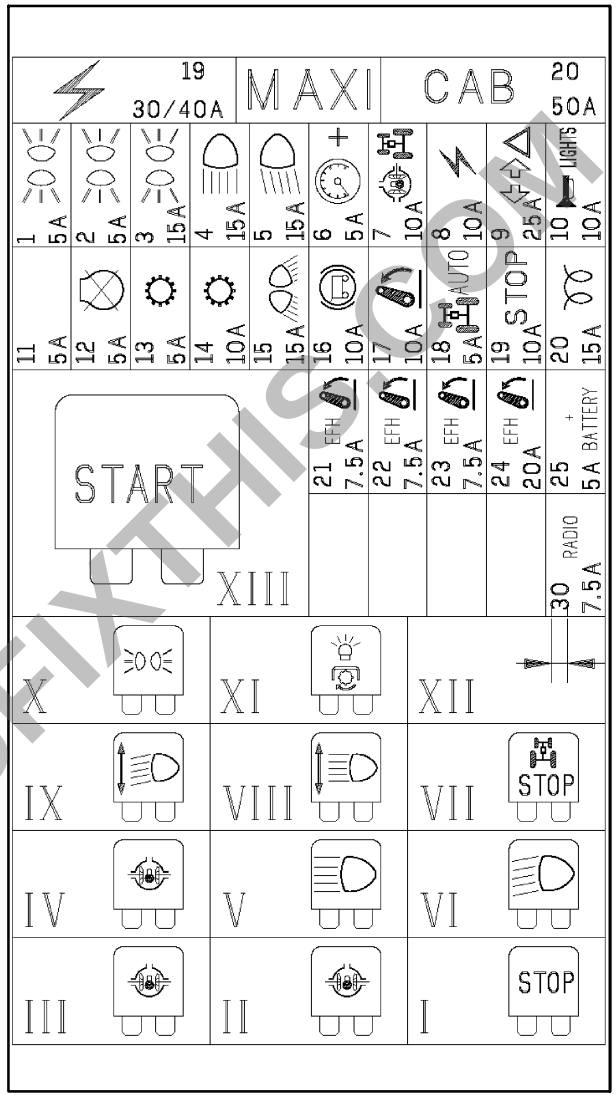
VERSION 1 (WITH CAB)

Two/FWD models with: mechanical FWD and mechanical lift, fitted for:

- Electrohydraulic differential lock.
- Power Shuttle.
- Digital instrument.
- 30/40A power socket.

List of relay functions

I. Brake lights circuit.
II. Differential lock circuit.
III. Not used.
IV. Differential lock circuit.
V. Full beam headlights circuit.
VI. Dipped beam headlights circuit.
VII. Not used.
VIII. Front headlight switchover circuit.
IX. Front headlight switchover circuit.
X. Side lights circuit.
XI. Front power take-off indicator light circuit.
XII Not used.
XIII Engine starter circuit maxi-relay.
XIII Engine starter circuit maxi-relay.



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LUBRICATION AND MAINTENANCE TABLE

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

Hours of work	Number Operation	Maintenance operation	Functional check	Fill-up level	Cleaning	Greasing	Adjustment	Replacement	Page
Flexible maintenance	1.	Clutch pedal					●		4-7
	2.	Fast raise/lower control device					●		4-8
	3.	Windscreen washer reservoir		●					4-9
	4.	Fan belt					●		4-9
	5.	Compressor belt					●		4-10
	6.	Air filter exhaust valve			●				4-10
With warning light ON	7.	Air filter external cartridge			●				4-11
	8.	Brake fluid reservoir	●	●					4-12
Every 10 hours	9.	Oil sump	●	●					4-13
	10.	Radiator expansion tank (model TN70DA, TN75DA)	●	●					4-13
	11.	Cab air filters			●				4-14
	12.	Air conditioning dehydration filter			●				4-14
	13.	Condenser			●				4-15
Every 50 hours	14.	Rear wheel hubs				●			4-16
	15.	Lift and implement linkage				●			4-16
	16.	Front axle pivots (FWD)				●			4-16
	17.	Fuel filter			●				4-17
	18.	Tire pressure	●						4-17
	19.	Steering cylinders (2WD)				●			4-17
	20.	Right and left-hand stub axle (2WD)				●			4-18
	21.	Front axle pivot (2WD)				●			4-18

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ENGINE DATA

Engine ..... IVECO

- TN60DA 8035.05C
- TN70DA 8035.25R
- TN75DA 8035.25

– Clutch ..... 11″

– Injection pump ..... BOSCH

– Inlet
  - TN60DA ..... Naturally aspirated
  - TN70DA ..... Turbocharged
  - TN75DA ..... Turbocharged

– Number of cylinders 3

– Bore and stroke ..... 104 x 115 mm .... (4.09 x 4.53 in.)

– Total displacement ..... 2.9L ..... (179 in^3)

– Compression ratio
  - TN60DA ..... 17 : 1
  - TN70DA ..... 18 : 1
  - TN75DA ..... 16.5 : 1

– Engine max. power DGM/DIN:
  - TN60DA ..... kw 42
    hp 57
  - TN70DA ..... kw 52
    hp 70
  - TN75DA ..... kw 56
    hp 75

– Torque increase (%)
  - TN60DA 27
  - TN70DA 35
  - TN75DA 33

– Corresponding speed ..... rpm 2300

– Maximum torque ..... rpm 1400

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ENGINE

CONDITION	POSSIBLE CAUSE	REMEDY
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 develop full 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
	Engine operating temperature	Check thermostat
	Implement incorrectly set	See equipment manual

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SECTION 3
FIELD OPERATION

⚠ WARNING ⚠

In order to prevent accidents and safeguard the operator, carefully read the use and safety instructions before starting the engine and using the tractor.

Read this section of the operator's manual carefully before using the tractor. This is particularly important if the tractor is to be used correctly as it contains all the information required on the layout and use of the tractor controls.

Even if you already have experience in using other makes of tractor, this section of the manual especially must be studied carefully and thoroughly.

After reading this section in full, ensure that you are fully familiar with the layout and use of the controls. Ensure too that you know the specifications of the tractors in question.

Never start the engine and tractor if you have not already familiarized yourself with all the controls.

Finding out once the tractor is moving may be too late.

If you have any doubts about any functional aspect of the tractor, contact you NEW HOLLAND dealer.

Particular attention needs to be paid to the tractor's running-in period, to obtain the best operating reliability and service life for which it is designed and built.

With regard to the reliability and service life of your tractor, read Section 4 completely.

Section 4 contains details of all the lubrication and general maintenance operations to be carried out on the tractor.

Section 8 contains tractor data and specifications.

⚠ CAUTION ⚠

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

- **Do not start or operate the tractor in an enclosed area.**
- **Before starting the engine, check that all controls are in neutral.**
- **All controls must only be operated from the driving position.**
- **Stop the engine before carrying out any service or maintenance operations on the tractor.**
- **Use the steps provided for entering and leaving the tractor.**
- **Keep the guards properly fitted.**
- **When driving on roads, indicate all intentions to stop, turn or slow down.**
- **Use the appropriate warning devices to signal the presence of a slow-moving vehicle.**

STARTING THE ENGINE

If the tractor has not been used for some time, or is started up for the first time in low outside temperature conditions, operate the fuel pump starting lever approximately twenty times and allow the engine to run for 5 to 10 seconds with the injection pump in the «stop» position.

Press down the clutch pedal, place the shuttle control lever in neutral to close the starting safety device switch.

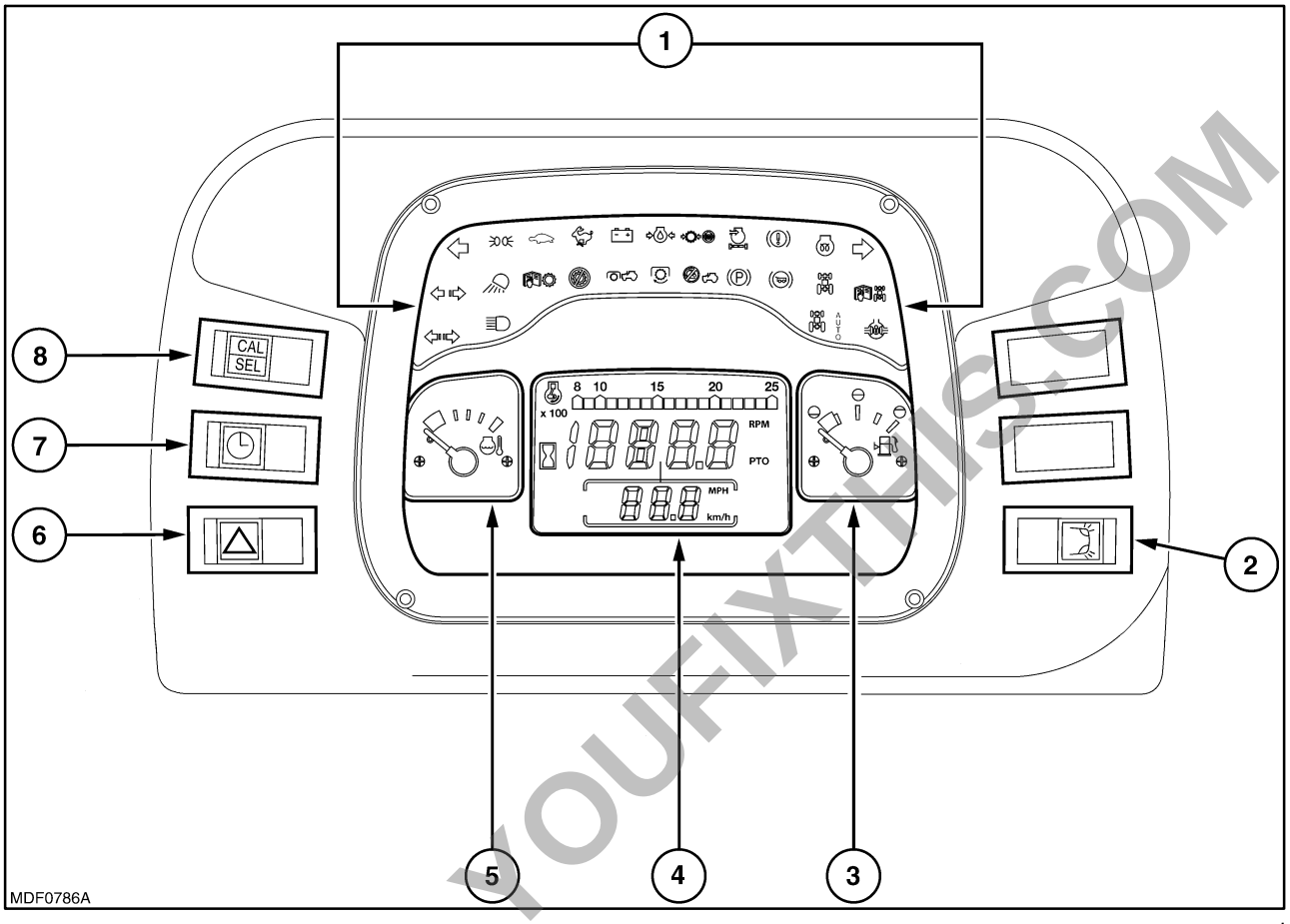
Move the throttle lever to approximately the half-way position.

Turn the starter key to position **C** (ON). then release the key as soon as the engine starts.

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DIGITAL INSTRUMENT CONTROL PANEL



1

1. Function indicators
2. Angular headlight switch
3. Fuel gauge
4. Digital instrument
5. Engine coolant temperature indicator
6. Flashing hazard warning lights switch
7. Clock adjustment switch
8. Digital instrument calibration switch

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Main fusebox

Fuses	*Amps*	*PROTECTED CIRCUITS*
1	5	Front right-hand and rear left-hand side lights, side lights indicator.
2	15	Front left-hand and rear right-hand side lights, control instrument panel light.
3	15	ISO side lights, or 7-pin work light (North America).
4	15	Full beam headlights.
5	15	Dipped beam headlights.
6	5	+instrument common.
7	10	Differential lock circuit.
8	10	8A power socket, digital instrument.
9	25	Direction indicator and hazard lights.
10	10	Horn, full beam flasher, seat safety circuit.
11	5	Starter safety circuit.
12	5	Engine cut-out electromagnet
13	5	Power Shuttle circuit.
14	10	Power Shuttle circuit.
15	15	Swivel position lights, seat, cab users relay.
16	–	Not used.
17	–	Not used.
18	–	Not used.
19	10	Brake lights (STOP).
20	15	Thermostarter.
21	–	Not used.
22	–	Not used.
23	–	Not used.
24	–	Not used.
25	5	Electronic control unit power supply, +battery.
26	–	Not used.
27	–	Not used.
28	–	Not used.

Maxi-fuses

30A ISO power socket 40A North America power socket 50A Cab circuit

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Hours of work	Number Operation	Maintenance operation	Functional check	Fill-up level	Cleaning	Greasing	Adjustment	Replacement	Page
Every 300 hours	22.	Engine sump/Oil Change						●	4-19
	23.	Engine Oil Filter						●	4-19
	24.	Fuel filter						●	4-19
	25.	Fuel pump filter			●				4-20
	26.	Transmission oil filter and services						●	4-20
	27.	Oil filter (Power Shuttle Transmission)						●	4-20
	28.	Battery	●	●					4-21
	29.	Air filter (external cartridge)			●				4-21
	30.	Transmission and lift	●	●					4-21
	31.	Front axle housing	●	●					4-22
	32.	Handbrake	●				●		4-22
	33.	Front axle final drives (FWD)	●	●					4-22
	34.	Front stub axles (FWD)				●			4-23
	35.	Front wheels (2WD)							4-23
Every 900 hours	36.	Engine valves	●				●		4-24
Every 1200 hours or annually	37.	Cab air filters						●	4-25
	38.	Air filter (internal and external cartridges)						●	4-25
	39.	Fuel tank			●				4-25
Every 1200 hours or every 2 years	40.	Front axle final drive (FWD)						●	4-26
	41.	Fuel injectors	●				●		4-26
	42.	Transmission and lift oil						●	4-26
	43.	Engine cooling system						●	4-27
General maintenance	Bleed fuel system								4-30
	Bleed brake system								4-31
	Electrical system								4-32
	Recommendations for bodywork maintenance								4-46
	Lubricants and fluids								4-47

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TIMING SYSTEM

With overhead valves

–Intake:

- start before TDC 12º
- end after BDC 31º

–Exhaust:

- start before BDC 50º
- end after TDC 16º

–Valve clearance, timing inspection: . . . . . 0.45 mm . . . . . (0.0177 in.)

–Valve clearance, engine cold:

- intake and exhaust . . . . . 0.30 ± 0.05 mm . . . (0.011 ± 0.0019 in.)

FUEL SYSTEM

Double-diaphragm fuel pump on injection pump supply line.

Rotary injection pump with centrifugal speed governor, operating at all speeds and incorporating automatic advance . . . . . BOSCH–VE4 type

Fuel filtering:

–Mesh filter in the fuel pump.

–Replaceable cartridge filter on the injection pump feed line with water separator. Fuel sediment filter (optional).

Double cartridge dry air filter, with centrifugal pre-filter and automatic dust extractor.

Injection pump timing on the engine before the TDC of cylinder No. 1 during the compression stroke:

–TN60DA . . . . . 9° ± 0.5°
–TN70DA . . . . . 6° ± 0.5°
–TN75DA . . . . . 6° ± 0.5°

Fuel injectors:

–injection order . . . . . 1 – 2 – 3
–number of injection nozzles: 5
–setting: . . . . . bar . . . . . 260 to 272
(psi) (3770 to 3945)

LUBRICATION

Forced, by gear pump. Oil filtration: forced through pump intake mesh and replaceable cartridge filter on engine intake.

Engine lubrication pressure:

–engine speed 2300 rpm . . . . . bar . . . . . 2.9 to 3.9
(psi) (42 to 57)

Engine oil cooled by a heat exchanger using engine coolant.

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ENGINE

CONDITION	POSSIBLE CAUSE	REMEDY
Engine does not reach maximum power (cont.)	Implement incorrectly set	See equipment manual
	Improper valve clearance	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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STARTING AND STOPPING

STARTING IN LOW OUTSIDE TEMPERATURE CONDITIONS

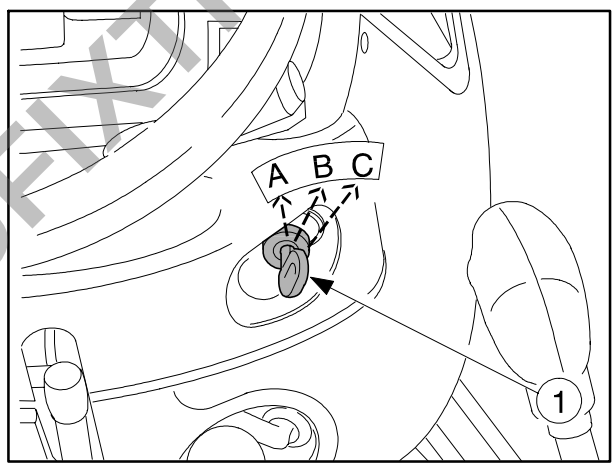
When starting the engine with low outside temperatures and when the engine is cold, proceed as follows:

- Avoid running down the battery. Any single engine starting attempt should not last longer than 15 seconds. If the engine fires but does not start, continue the attempt up to a maximum of 30 seconds.
- Wait for at least one minute between each attempt to start the engine;
- To avoid excessively running down the battery, do not make more than six attempts to start the engine.

STARTER SWITCH

The key switch, 1, functions in three positions as follows:

A. No power supply to any of the circuits (key can be removed). Engine stopped: automatic activation of fuel injection cut-off.
B. Standby for engine start up. Operation of panel lights and instruments. Power supplied to various circuits.
C. Engine start up: if released, the key returns automatically to position (**B**).



1

STARTING WITH THE THERMOSTART

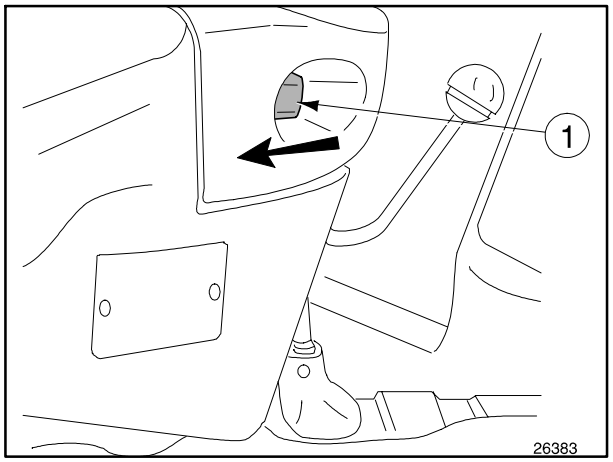
Start as follows:

Press down the clutch pedal, place the shuttle control lever in neutral to close the starting safety device switch.

Move the throttle lever to approximately the half-way position.

Turn the starter key to position **C** (ON). then release the key as soon as the engine starts.

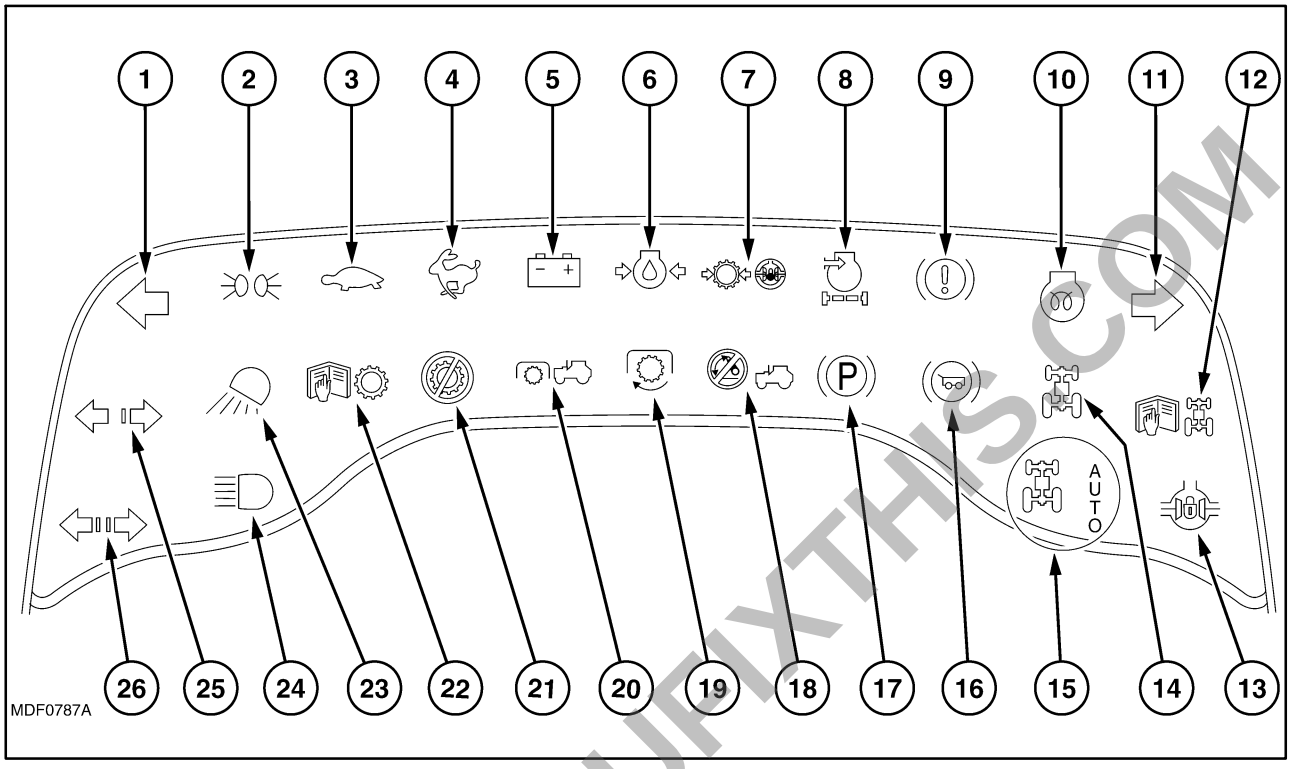
- Turn the starter key to position **B**.
- Turn on the thermostart by pressing pushbutton, 1, and hold in position for 25 seconds.
- Turn the starter key to position **C** while holding down the thermostart button, 1, until the engine starts.



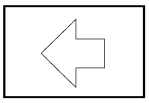
2

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INDICATOR LIGHT PANEL

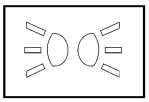


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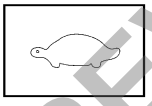
1. Tractor left-hand turn indicator.

Flashes at the same time as the left-hand turn indicators.



2. Side lights indicator

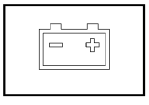
Lights up when the sidelights are switched on



3. Not used



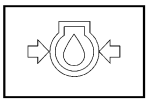
4. Not used



5. Battery charging system warning light

Should switch off as soon as the engine starts. If the light stays on when the engine is running, stop and find the cause of the problem.

May light up when the engine is idling, but does not necessarily indicate a fault.



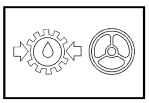
6. Engine lubrication oil low pressure indicator

The light should go out a few seconds after the engine is started.

If it stays on when the engine is running, switch it off and look for the cause of the problem.

If the light remains on, particularly when the tractor is moving, contact your dealer.

When the engine is warmed up and running at minimum revs, with the tractor stationary, the light may illuminate, even if no faults are present.



7. Transmission and/or power steering oil low pressure alarm indicator

The light should go out a few seconds after the engine is started. If it does not, particularly when the tractor is moving, contact your dealer for advice from specialized personnel. With the engine running at minimum revs and the tractor stationary, the light may come on without indicating a problem.

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