LOCATION OF FUSES AND RELAYS

MAIN RELAYS

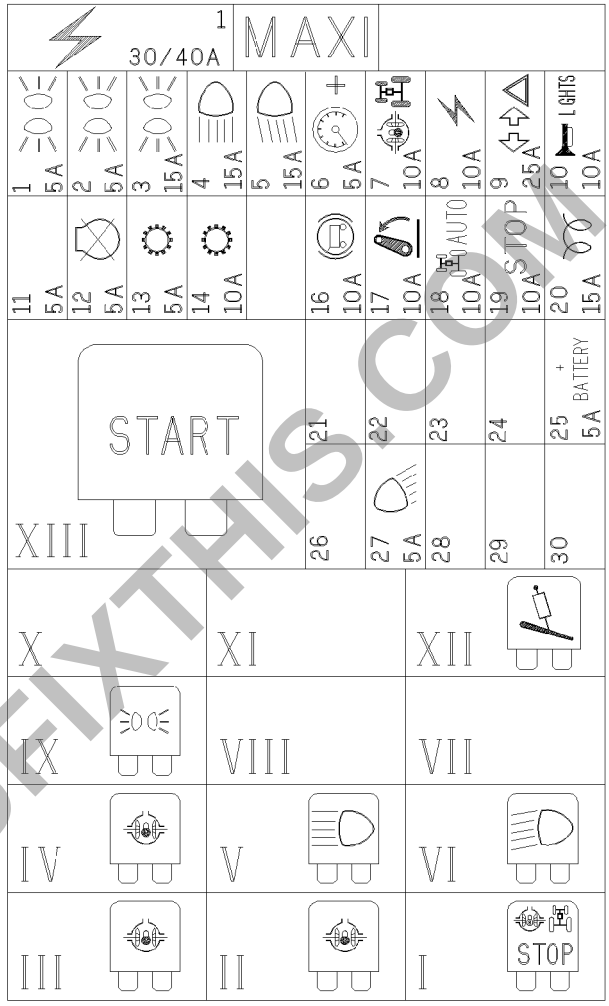
VERSION 1 (without cab) - FIG. 72

2WD models:

I. Brake lights circuit.
II. Not used.
III. Not used.
IV. Not used.
V. Full beam headlight circuit.
VI. Dipped beam headlight circuit.
VII. Not used.
VIII. Not used.
IX. Cornering lights circuit.
X. Not used.
XI. Not used.
XII. Not used.
XIII. Engine starter circuit maxi-relay.

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 affect tractor control with dangerous results.

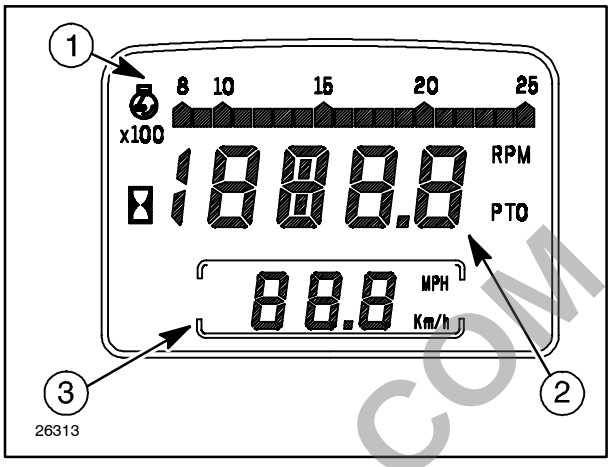


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INSTRUMENT CALIBRATION



11

In order to measure speed correctly, the instrument must be calibrated to compensate for possible variations in the radius of the tires under load (for example, due to different types of tire or different operating weights, etc...).

To calibrate the instrument, follow the instructions set out below:

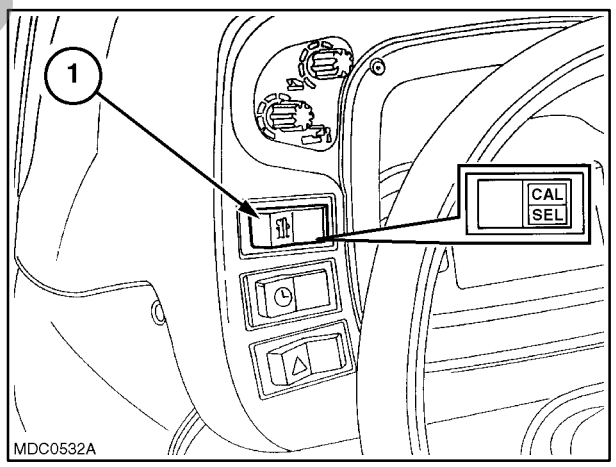
- mark out a distance of 328 ft. (100 meters) on the ground;

- press the **CAL** (**1**) fig. 12 selection button for 3 seconds, until the **CAL** message appears on sector (**3**) fig. 11. At the same time, on central sector (**2**) fig. 11, the current calibration constant value should be displayed. Sector (**3**) fig. 11 will continue to show the **CAL** message, together with the previously set unit of measurement;

- set a steady tractor speed between 2.48 and 6.21 mph (4 and 10 km/h) and press the **CAL** (**1**) fig. 12 pushbutton; the **CAL** message should start flashing and the value previously displayed in sector (**2**) fig. 11 will be zero-set.;

- at the end of the marked distance press the **CAL** (**1**) fig. 12 button again to store the new calibration constant;

- this automatically terminates the calibration procedure and sector (**3**) fig. 11 will show the speed calculated according to the new constant whilst sector (**2**) fig. 11 will show the engine rpm.



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ENGINE

PROBLEM	POSSIBLE CAUSE	SOLUTION
The engine will not start or is difficult to start	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
	Engine operating temperature	Check thermostat
	Implement incorrectly set	See equipment manual

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MODEL TN75FA - SPEED AT MAXIMUM POWER

Transmission with mechanical shuttle - 18.64 mph (30 km/h) version (16F+16R)

Forward gears

RANGE	GEAR	REAR TIRES mph (km/h)			
		380.70R20(*)	380.70R24	420.70R24 360.70R28	13.6-28
A	1	0.37 (0.6)	0.37 (0.6)	0.37 (0.6)	0.49 (0.8)
	2	0.55 (0.9)	0.55 (0.9)	0.55 (0.9)	0.55 (0.9)
	3	0.86 (1.4)	0.74 (1.2)	0.8 (1.3)	0.86 (1.4)
	4	1.24 (2.0)	1.18 (1.9)	1.24 (2.0)	1.30 (2.1)
BL	1	1.61 (2.6)	1.49 (2.4)	1.61 (2.6)	1.67 (2.7)
	2	2.42 (3.9)	2.36 (3.8)	2.36 (3.8)	1.24 (2.0)
	3	3.54 (5.7)	3.35 (5.4)	3.60 (5.8)	3.60 (5.8)
	4	5.28 (8.5)	4.90 (7.9)	5.21 (8.4)	5.34 (8.6)
BH	1	1.98 (3.2)	1.86 (3.0)	2.17 (3.5)	2.05 (3.3)
	2	2.98 (4.8)	2.7 (4.5)	2.92 (4.7)	3.04 (4.9)
	3	4.34 (7.0)	5.28 (8.5)	4.28 (6.9)	4.41 (7.1)
	4	6.46 (10.4)	6.02 (9.7)	6.33 (10.2)	6.58 (10.6)
C	1	5.71 (9.2)	5.34 (8.6)	5.65 (9.1)	5.84 (9.4)
	2	8.57 (13.8)	7.82 (12.6)	8.45 (13.6)	8.69 (14.0)
	3	12.61 (20.3)	11.74 (18.9)	12.30 (19.8)	12.80 (20.6)
	4	18.64 (30.0)	17.39 (28.0)	18.33 (29.5)	18.95 (30.5)

Forward gears

RANGE	GEAR	REAR TIRES mph (km/h)			
		380.70R20(*)	380.70R24	420.70R24 360.70R28	13.6-28
A	1	0.37 (0.6)	0.31 (0.5)	0.37 (0.6)	0.37 (0.6)
	2	1.18 (1.9)	0.49 (0.8)	0.49 (0.8)	0.55 (0.9)
	3	0.8 (1.3)	0.74 (1.2)	0.8 (1.3)	0.8 (1.3)
	4	1.24 (2.0)	1.11 (1.8)	1.18 (1.9)	1.24 (2.0)
BL	1	1.55 (2.5)	1.49 (2.4)	1.55 (2.5)	1.61 (2.6)
	2	2.36 (3.8)	2.17 (3.5)	2.29 (3.7)	2.36 (3.8)
	3	3.47 (5.6)	3.23 (5.2)	3.41 (5.5)	3.60 (5.8)
	4	5.09 (8.2)	4.72 (7.6)	5.03 (8.1)	5.21 (8.4)
BH	1	1.92 (3.1)	1.8 (2.9)	1.86 (3.0)	1.98 (3.2)
	2	2.85 (4.6)	2.67 (4.3)	2.79 (4.5)	2.92 (4.7)
	3	4.22 (6.8)	3.91 (6.3)	3.47 (5.6)	3.66 (5.9)
	4	6.21 (10.0)	5.84 (9.4)	6.21 (10.0)	6.33 (10.2)
C	1	5.59 (9.0)	5.21 (8.4)	5.46 (8.8)	5.65 (9.1)
	2	8.32 (13.4)	7.76 (12.5)	8.13 (13.1)	8.45 (13.6)
	3	12.17 (19.6)	11.37 (18.3)	11.99 (19.3)	12.17 (19.6)
	4	18.08 (29.1)	17.14 (27.6)	17.70 (28.5)	18.33 (29.5)

NOTE: *(*) 380.70 - 20 tires are only supplied with the 11/36 rear axle bevel gear pair. This combination should never be varied as it is subject to homologation.*

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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 of work	Operation Number	Maintenance operation	Functional check	Fill-up level	Cleaning	Greasing	Adjustment	Replacement	Page
Flexible maintenance	1.	Adjust engine clutch					●		4-7
	2.	Adjust fan belt					●		4-8
	3.	Adjust compressor belt					●		4-8
	4.	Outlet valve, dry air filter			●				4-8
	5.	Windscreen washer tank		●					4-9
With warning light ON	6.	Main cartridge, dry air filter			●				4-10
	7.	Brake fluid reservoir	●	●					4-11
Every 10 hours	8.	Oil sump	●	●					4-12
	9.	Radiator expansion tank (model. TN85FA e TN95FA)	●	●					4-12
	10.	Cab air filters			●				4-13
	11.	Cab recirculated air filter ECO CAB			●				4-25
	12.	Air conditioning receiver-drier			●				4-14
Every 50 hours	13.	Front axle pivots 4WD				●			4-15
	14.	Front drive shaft 4WD				●			4-15
	15.	Steering cylinder 2WD				●			4-15
	16.	Rear wheel hubs				●			4-16
	17.	Lift and linkage				●			4-16
	18.	Steering cylinder 4WD				●			4-16
	19.	Stub axle: right and left hand sides - 2WD				●			4-17
	20.	Front axle pivot 2WD				●			4-17
	21.	Fuel filter (condensation drain)			●				4-17
	22.	Front lift arms shaft				●			4-18
	23.	Front power take-off coupling				●			4-18

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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

A. 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÷10 seconds with the injection pump in the «stop» position.

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

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

D. Turn the starter key to position **C** (fig. 1, page 3-3). Release the key as soon as the engine starts.

STARTING AND STOPPING

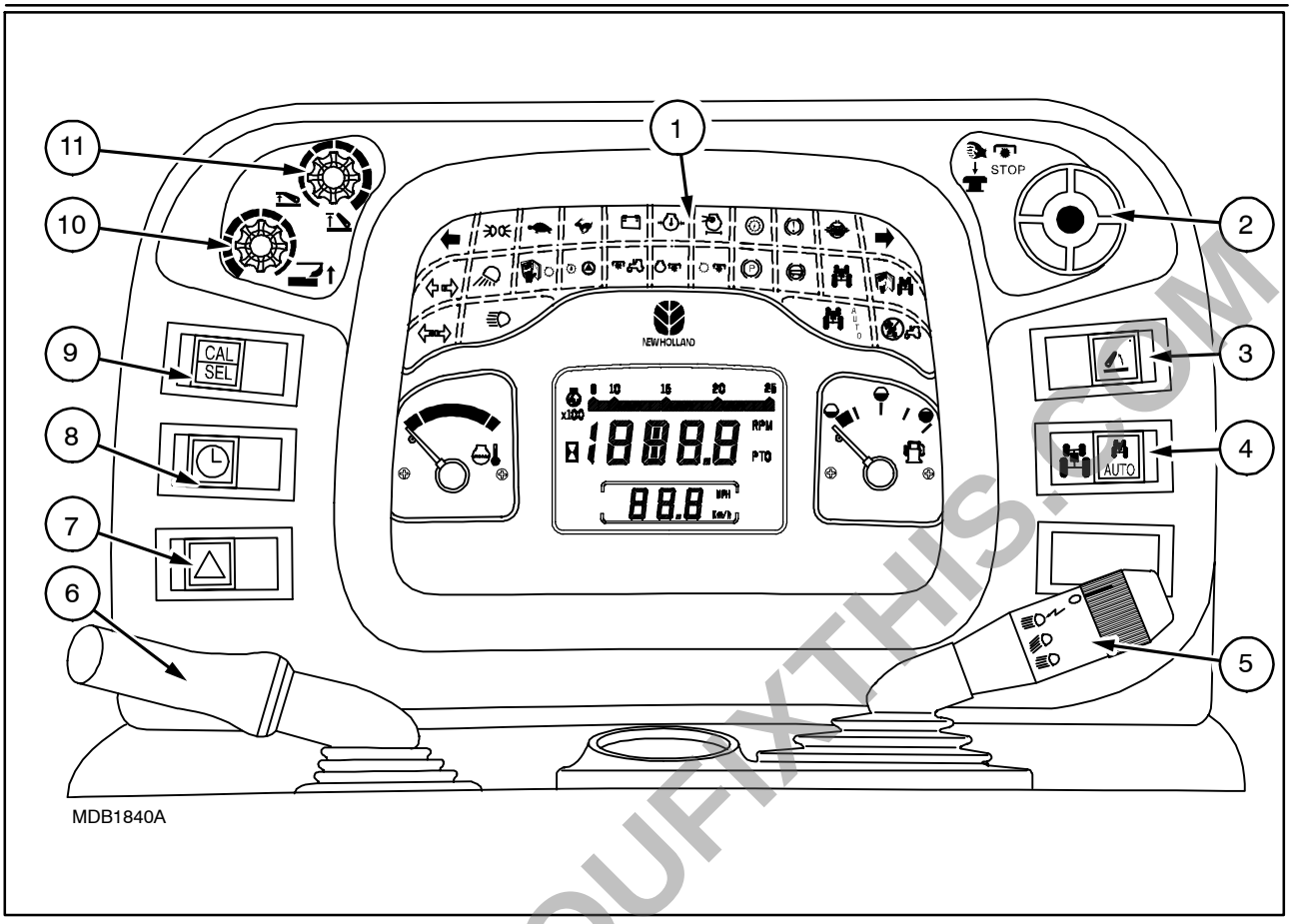
STARTING IN LOW OUTSIDE TEMPERATURE CONDITIONS

CAUTION

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

- *in order not to run the battery down, any single engine starting attempt should not last longer than 15 seconds; if, however, the engine fires but does not start, repeat up to a maximum time of 30 seconds;*
- *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.*

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Digital instrument control panel

1. Indicator light panel.
2. Front Power take-off control.
3. Front lift arms raise switch.
4. Automatic front wheel drive mode switch.
5. Light control lever.
6. Power Shuttle control lever.
7. Flashing hazard warning lights switch.
8. Clock adjustment switch.
9. Dashboard electronic mode selection switch.
10. Front lift working depth adjustment knob.
11. Front lifting arms upper limit adjustment knob.

⚠ CAUTION ⚠

To avoid damaging the electronic components, follow the instructions noted below when carrying out arc welding on tractors fitted with electronic lifts or on connected implements.

- When possible, disconnect the implement or the part that needs welding from the tractor.
- Disconnect the two battery cables from the terminals.
- Connect the welding machine ground clamp as close as possible to the area where welding is to take place.
- If welding is to be carried out within **1 meter** of the control unit, the unit must first be removed.
- Whilst welding, make sure that the cables do not pass above or near electrical or electronic leads.

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VERSION 2 (with cab) - FIG. 73

2WD models:

I. Brake lights circuit.

II. Not used.

III. Not used.

IV. Not used.

V. Full beam headlight circuit.

VI. Dipped beam headlight circuit.

VII. Not used.

VIII. Not used.

IX. Cornering lights circuit.

X. Not used.

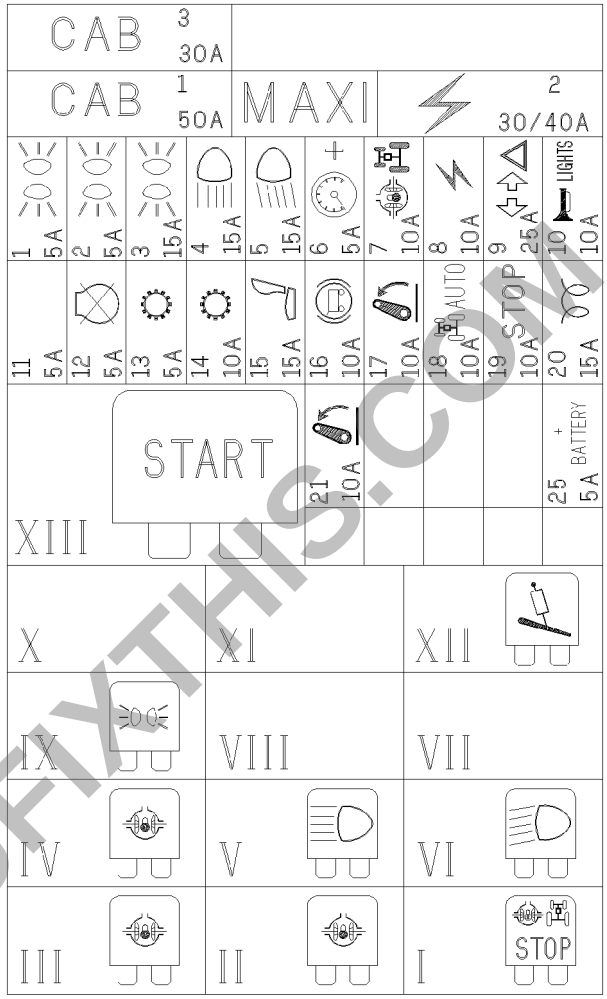
XI. Not used.

XII. Not used.

XIII. Engine starter circuit maxi-relay

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 affect tractor control with dangerous results.



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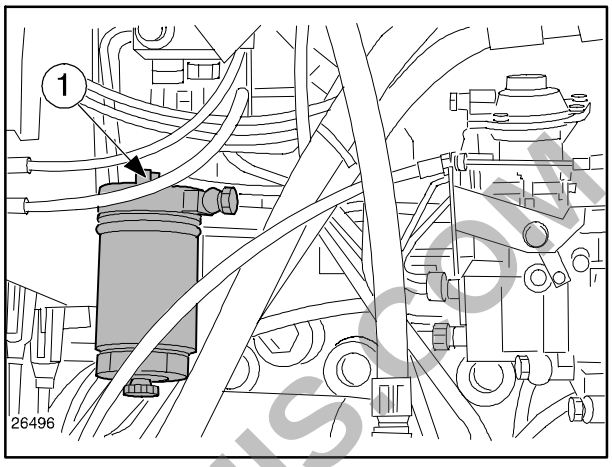
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GENERAL MAINTENANCE

Fuel Bleeding procedures - Figs. 64, 65 and 66

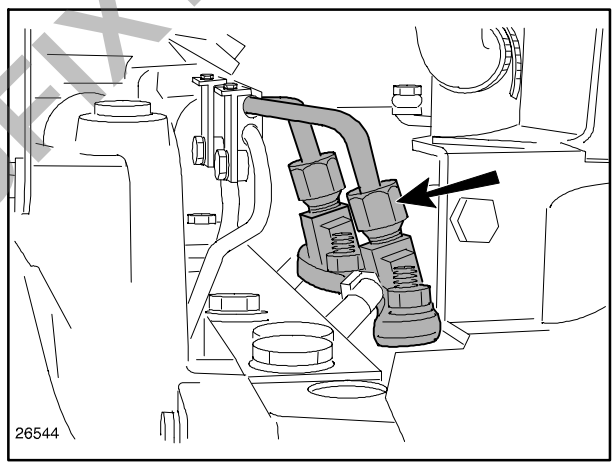
During long periods when the tractor is not used, when the filter and fuel lines are removed or when the fuel tank is empty, air may enter the fuel system.

The presence of air makes it difficult to start the engine, which will require bleeding as follows:



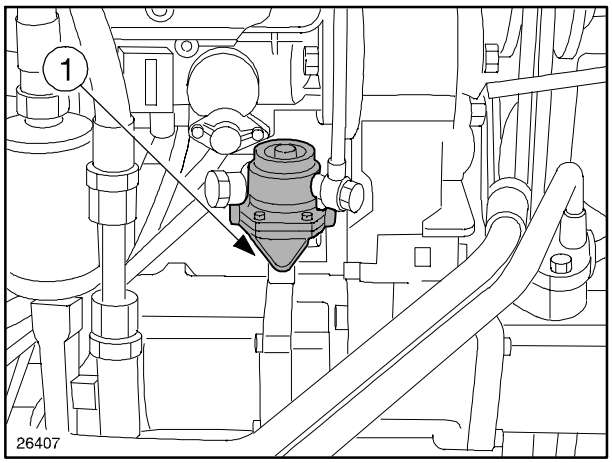
64

1. unscrew the bleed plug (**1**) fig. 64 by two turns.;
2. move the lever (**1**) fig. 66 until fuel without air bubbles spurts out of the bleed hole;
3. tighten the plug (**1**) fig. 64;
4. after tightening the bleed plug (**1**) fig. 64, move the lever fig. 66 again a few times;



65

5. unscrew all of the connectors on the injectors shown in the figure 65, disconnect and allow the starter motor to turn over, until fuel without air bubbles spurts out of the connectors. Reconnect the connectors;
6. turn the starter key to position **C** (fig. 1 page 3-3) and, as soon as the engine starts, release the key.



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NOTE: *If the engine does not start, repeat operations 1 to 6. If the engine still fails to start, contact your local New Holland dealer.*

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ENGINE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine does not reach maximum power (cont.)	Implement incorrectly set	See equipment manual
	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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MODELS TN85FA AND TN95FA - SPEED AT MAXIMUM POWER

Transmission with mechanical shuttle - 18.64 mph (30 km/h) version (16F+16R)

Forward gears

RANGE	GEAR	REAR TIRES mph (km/h)					
		380.70R20(*)	380.70R24	420.70R24 360.70R28	380.70R28 13.6-28	420.70R28 14.9-28	16.9-28
A	1	0.37 (0.6)	0.31 (0.5)	0.37 (0.6)	0.37 (0.6)	0.49 (0.8)	.37 (0,6)
	2	0.55 (0.9)	0.49 (0.8)	0.49 (0.8)	0.55 (0.9)	0.55 (0.9)	.55 (0,9)
	3	0.86 (1.4)	0.74 (1.2)	0.74 (1.2)	0.8 (1.3)	0.8 (1.3)	.86 (1,4)
	4	1.24 (2.0)	1.05 (1.7)	1.11 (1.8)	1.18 (1.9)	1.24 (2.0)	1.30 (2,1)
BL	1	1.61 (2.6)	1.36 (2.2)	1.42 (2.3)	1.49 (2.4)	1.55 (2.5)	1.67(2,7)
	2	2.42 (3.9)	2.05 (3.3)	2.17 (3.5)	2.23 (3.6)	2.36 (3.8)	2.4 (4,0)
	3	3.54 (5.7)	3.04 (4.9)	3.16 (5.1)	3.29 (5.3)	3.47 (5.6)	3.6 (5,8)
	4	5.28 (8.5)	4.47 (7.2)	4.72 (7.6)	4.90 (7.9)	5.15 (8.3)	5.3 (8,6)
BH	1	1.98 (3.2)	1.67 (2.7)	1.8 (2.9)	1.86 (3.0)	1.92 (3.1)	2.05 (3,3)
	2	2.98 (4.8)	2.54 (4.1)	2.67 (4.3)	2.73 (4.4)	2.85 (4.6)	3.04 (4,9)
	3	4.34 (7.0)	3.72 (6.0)	3.91 (6.3)	4.03 (6.5)	4.22 (6.8)	4.41 (7,1)
	4	6.46 (10.4)	5.53 (8.9)	5.77 (9.3)	5.96 (9.6)	6.27 (10.1)	6.58 (10,6)
C	1	5.71 (9.2)	4.90 (7.9)	5.15 (8.3)	5.34 (8.6)	5.59 (9.0)	5.84 (9,4)
	2	8.57 (13.8)	7.27 (11.7)	7.70 (12.4)	7.95 (12.8)	8.32 (13.4)	8.69 (14,0)
	3	12.61 (20.3)	10.74(17.3)	11.30(18.2)	11.68 (18.8)	12.24(19.7)	12.80(20,6)
	4	18.64 (30.0)	15.90(25.6)	16.09(25.9)	17.27 (27.8)	18.14(29.2)	19.01(30,6)

Reverse gears

RANGE	GEAR	REAR TIRES mph (km/h)					
		380.70R20(*)	380.70R24	420.70R24 360.70R28	380.70R28 13.6-28	420.70R28 14.9-28	16.9-28
A	1	0.37 (0.6)	0.31 (0.5)	0.37 (0.6)	0.37 (0.6)	0.37 (0.6)	.37 (0,6)
	2	1.18 (1.9)	0.49 (0.8)	0.49 (0.8)	0.55 (0.9)	0.55 (0.9)	.55 (0,9)
	3	0.8 (1.3)	0.74 (1.2)	0.74 (1.2)	0.8 (1.3)	0.8 (1.3)	.8 (1,3)
	4	1.24 (2.0)	1.05 (1.7)	1.11 (1.8)	1.18 (1.9)	1.24 (2.0)	1.24 (2,0)
BL	1	1.55 (2.5)	1.36 (2.2)	1.42 (2.3)	1.49 (2.4)	1.55 (2.5)	1.61 (2,6)
	2	2.36 (3.8)	2.05 (3.3)	2.17 (3.5)	2.23 (3.6)	2.36 (3.8)	2.36 (3,8)
	3	3.47 (5.6)	3.04 (4.9)	3.16 (5.1)	3.29 (5.3)	3.47 (5.6)	3.54 (5,7)
	4	5.09 (8.2)	4.47 (7.2)	4.72 (7.6)	4.90 (7.9)	5.15 (8.3)	5.21 (8,4)
BH	1	1.92 (3.1)	1.67 (2.7)	1.8 (2.9)	1.86 (3.0)	1.92 (3.1)	1.98 (3,2)
	2	2.85 (4.6)	2.48 (4.0)	2.67 (4.3)	2.73 (4.4)	2.85 (4.6)	2.92 (4,7)
	3	4.22 (6.8)	3.72 (6.0)	3.91 (6.3)	4.03 (6.5)	4.22 (6.8)	4.28 (6,9)
	4	6.21 (10.0)	5.53 (8.9)	5.77 (9.3)	5.96 (9.6)	6.27 (10.1)	6.4 (10,3)
C	1	5.59 (9.0)	4.90 (7.9)	5.15 (8.3)	5.34 (8.6)	5.59 (9.0)	5.65 (9,1)
	2	8.32 (13.4)	7.33 (11.8)	7.70 (12.4)	7.95 (12.8)	8.32 (13.4)	8.45 (13,6)
	3	12.17 (19.6)	10.68(17.2)	11.30(18.2)	11.24 (18.1)	12.24(19.7)	12.42(20,0)
	4	18.08 (29.1)	15.90(25.6)	16.77(27.0)	17.27 (27.8)	18.14(29.2)	19.01(30,6)

***NOTE:** (*) 380.70 - 20 tires are only supplied with the 11/36 rear axle bevel gear pair.*

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Hours of work	Operation Number	Maintenance operation	Functional check	Fill-up level	Cleaning	Greasing	Adjustment	Replacement	Page
Every 300 hours	24.	Oil change, engine sump						●	4-19
	25.	Battery	●	●					4-19
	26.	Fuel filter						●	4-19
	27.	Fuel pump filter			●				4-20
	28.	Transmission oil filter and services						●	4-20
	29.	HI-LO/POWER-SHUTTLE oil filter						●	4-20
	30.	Engine Oil Filter						●	4-21
	31.	Air filter (external cartridge) TN75FA			●				4-21
	32.	Air filter (external cartridge) TN85FA - TN95FA			●				4-21
	33.	Transmission and lift oil level	●	●					4-22
	34.	Front axle housing 4WD oil level	●	●					4-22
	35.	Transmission handbrake	●				●		4-22
	36.	Front axle lateral hubs 4WD	●	●					4-23
	37.	Front wheels 2WD				●			4-23
	38.	Stub axles 4WD				●			4-23
Every 900 hours	39.	Engine valves	●				●		4-24
Every 1200 hours or annually	40.	Cab recirculated air filter						●	4-25
	41.	Cab recirculated air filter							4-25
	42.	Dry air filter cartridge, internal and external							4-25
	43.	Fuel tank			●				4-26
Every 1200 hours or every 2 years	44.	Fuel injectors	●				●		4-27
	45.	Front axle housing oil, 4WD						●	4-27
	46.	Front axle lateral hubs oil, 4WD						●	4-27
	48.	Engine cooling system						●	4-29
	47.	Transmission and lift oil						●	4-28
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