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.
	Low engine operating temperature.	Check thermostat.
	Fuel injector fault.	Have your dealer check the injectors.
	Implement incorrectly set.	See equipment manual.

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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	number Operation	Maintenance operation	Functional check	Top up	Clean	Grease	Adjust	Replace	Page
Flexible maintenance	1	Engine clutch					●		4–8
	2	Brake pedal					●		4–8
	3	Alternator belt	●						4–9
	4	Air conditioner compressor belt					●		4–10
	5	Outlet valve, dry air filter			●				4–10
	6	Oil cooler			●				4–10
	7	Tyre Pressures	●						4–11
	8	Wheel nuts	●						4–11
With warning light ON	9	Main cartridge, dry air filter			●				4–12
	10	Brake fluid reservoir	●	●					4–12
	11	Fuel filter water drain			●				4–13
Every 10 hours	12	Engine oil level	●	●					4–14
	13	Battery	●	●					4–15
	14	Radiator expansion tank	●	●					4–15
	15	Windscreen washer bottle	●	●					4–16
	16	Cab air filter			●				4–16
	17	Radiator, air cooler and air conditioner condenser	●		●				4–17
	18	Cab air–conditioning system	●						4–18
Every 50 hours	19	Hydraulic lift and linkage				●			4–19
	20	Steering cylinders 4WD				●			4–19
	21	Front axle rear pivot 4WD				●			4–19
	22	Front axle front pivot 4WD				●			4–20
	23	Steering cylinder 2WD				●			4–20
	24	Right hand stub axle 2WD				●			4–20
	25	Left–hand stub axle 2WD				●			4–21
	26	Front axle pivot 2WD				●			4–21
Every 100 hours of work	27	Condenser (models TD5010,TD5020 and TD5030)			●				4–22
	28	Intercooler (models TD5010,TD5020 and TD5030)			●				4–22

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ENGINE SPECIFICATION

Model	TD 5010	TD 5020	TD 5030	TD 5040	TD 5050
Engine type	IVECO				
	F5AE9484H*A	F5AE9484M*A	F5AE9484L*A	F4CE9487M*J	F4CE9487N*J
BOSCH Injection pump	4–stroke diesel, direct injection				
Pump type of IVECO engine:	VE4/12F	VE4/12F	VE4/12F	VE4/12F	VE4/12F
Turbocharged	YES				
Intercooler	YES				
Emission level	Stage 3				
Number of cylinders	4				
Bore and stroke mm (in)	99 x 104 (x 4.1)	99 x 104 (x 4.1)	99 x 104 (x 4.1)	104 x 132 (4.1 x 5.2)	104 x 132 (4.1 x 5.2)
Total displacement cm^3 (cubic in)	3200 (195.28)	3200 (195.28)	3200 (195.28)	4500 (274.61)	4500 (274.61)
Compression ratio	17.5±05:1				
Max Torque (Nm@rpm)	217@1250	280@1250	328@1250	375@1300	390@1300
Engine power ECER120: kW HP	 44 60	 53 72	 60 82	 65 88	 70 95

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OPERATION

⚠ CAUTION ⚠

Before starting the engine and moving the tractor, follow the instructions written 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 be actuated only from the driver's seat.
- 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 moving on the roads, signal your intention to stop, turn or slow down.
- Use the appropriate warning devices to indicate a slow–moving vehicle.

STARTING THE ENGINE

a. If the tractor has not been used for some time, or if started up for the first time at a low surrounding temperature, actuate the fuel pump starting lever around twenty times.

b. Ensure that both gear levers are in neutral position.

c. Press down the clutch pedal, place the power shuttle control lever (only for power shuttle versions) in neutral and move the servo PTO control lever (only for servo PTO versions) to disengaged position to close the starting safety device switch.

d. Move the throttle lever to around the half way position.

e. Turn the ignition key to position **C**, fig. 1. Release the key as soon as the engine starts.

HOW TO START AND STOP

STARTING IN A LOW EXTERNAL TEMPERATURE

⚠ WARNING ⚠

When the external temperature is low and the engine is cold, cover the radiator before starting so that the engine coolant can quickly reach operating temperature.
Then remove the cover. Note the following warnings:

— 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.

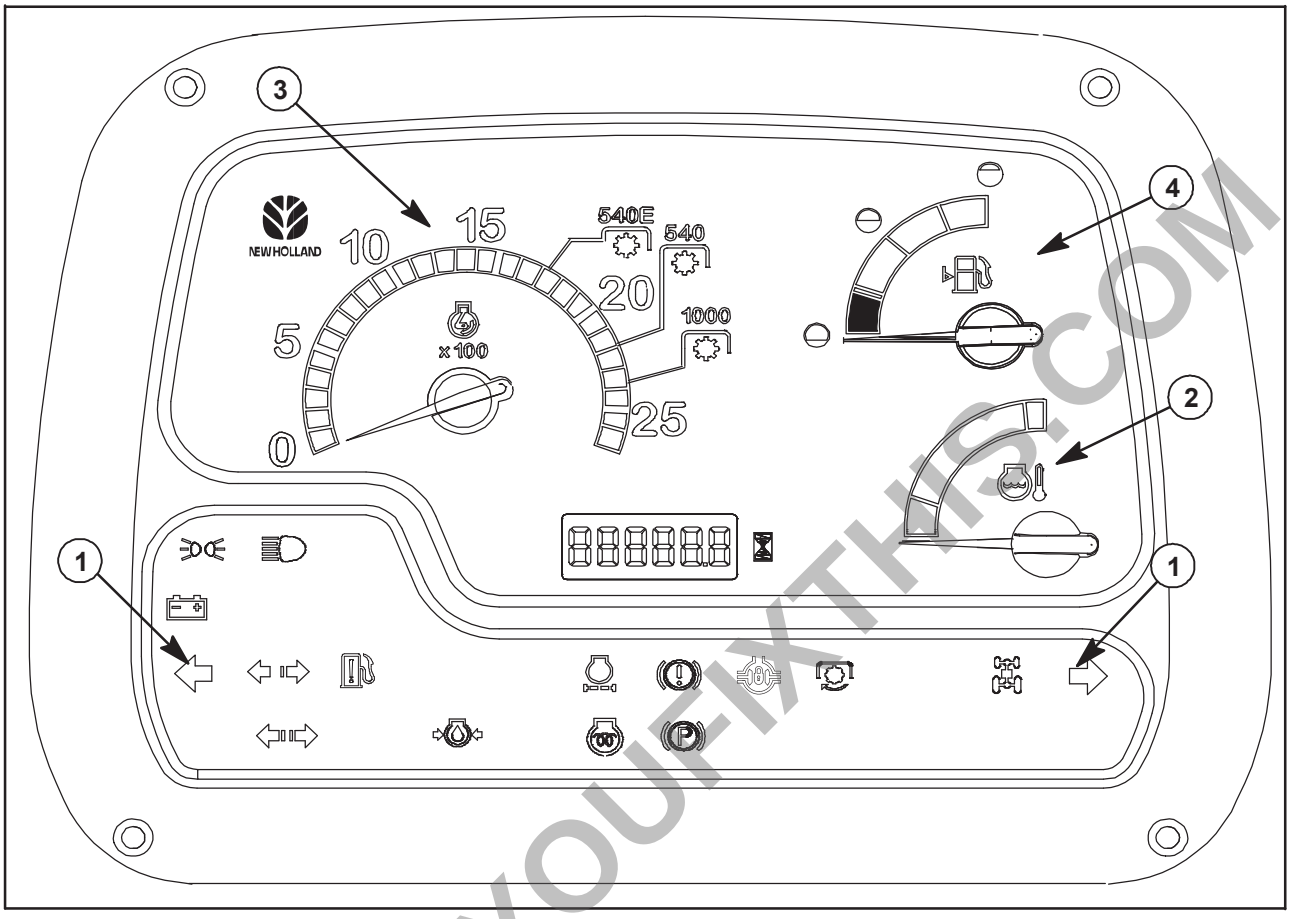
— Wait at least one minute between attempts to start the engine.

— It is advisable not to make more than six attempts to start the engine to avoid excessive battery run–down.

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INSTRUMENT PANEL



1

1. **Warning and indicator lights**

These lights illuminate to indicate a particular operation or to attract your attention.

2. **Engine coolant temperature gauge**

3. **Proofmeter / tachometer**

Hourmeter, engine speed counter, tachometer.

4. **Fuel gauge**

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ENGINE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine does not reach maximum power (cont.).	Valve clearance wrong.	Check and adjust.
	Idling speed too low.	Contact your dealer.
Abnormal engine knocking.	Oil level low.	Top up oil.
	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 oil 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; replace belt if worn.

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Hours of work	number Operation	Maintenance operations	Functional check	Top up	Clean	Grease	Adjust	Replace	Page
Every 300 hours	29	Transmission and hydraulic circuit oil filter						●	4–23
	30	Dry air filter (external cartridge)	●	●					4–23
Every 300 hours	31	Final reduction gears		●					4–24
	32	Rear transmission and hydraulic lift		●					4–24
	33	Front axle housing 4WD	●	●					4–25
	34	Handbrake	●				●		4–25
	35	Front axle reduction hubs 4WD	●	●					4–26
	36	Front wheels 2WD				●			4–26
	37	Front axle swivel bearings 4WD				●			4–26
	38	Alternator belt						●	4–27
	39	Transmission oil filter and services						●	4–27
Every 500/600 hours	40	Engine (drain oil and renew filter)						●	4–28
	41	Fuel Filter						●	4–30
	42	Fuel pre–filter			●				4–31
Every 1200 hours or annually	43	Cab air filter						●	4–32
	44	Dry air filter (cartridges: internal and external)						●	4–32
	45	Fuel tank			●				4–32
	46	Drive shaft sleeve for 4WD front axle connection	●					●	4–33
Every 1200 hours or every 2 years	47	Front axle housing oil, 4WD						●	4–33
	48	Front axle final drive hubs oil, 4WD						●	4–33
	49	Engine cooling system			●			●	4–34
	50	Engine valves	●				●		4–34
	51	Transmission and hydraulic oil						●	4–37
	52	Final reduction oil						●	4–37
Every 1800 hours	53	Fuel injectors	●				●		4–38
General maintenance	Bleeding the fuel system								4–39
	Bleeding the hydraulic brake system								4–40
	Electrical system								4–41
	Bodywork maintenance								4–48
	Lubrication capacities and specifications								4–49

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TIMING

Valve clearance, engine cold :
For all models;
– inlet . . . . . mm (in) 0.25 ± 0.05 (0.0098 ± 0.00197)
– exhaust . . . . . mm (in) 0.50 ± 0.05 (0.0197 ± 0.00197)

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 VE–type.

Fuel filtration :

– Pre filter before the fuel pump;

– replaceable cartridge filter in the injection pump feed line with water separator.

Double cartridge dry air filter, with centrifugal pre–filter and automatic dust extractor.
Optional : air filter with self–cleaning device (Donaspin).

MODEL	TD 5010	TD 5020	TD 5030	TD 5040	TD 5050
Engine injection pump, number of orifices :	4				

Injectors :	4 cyl.
– firing order :	1–3–4–2

LUBRICATION

Pressurised, by gear pump. Oil filtration : pressurised through pump intake mesh and replacable cartridge filter on engine intake.
Lubrication pressure with engine hot and at max. speed

On all models:
3.8 bar (55.1 Psi) (3.87492 kg/cm^2)

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STARTING AND STOPPING

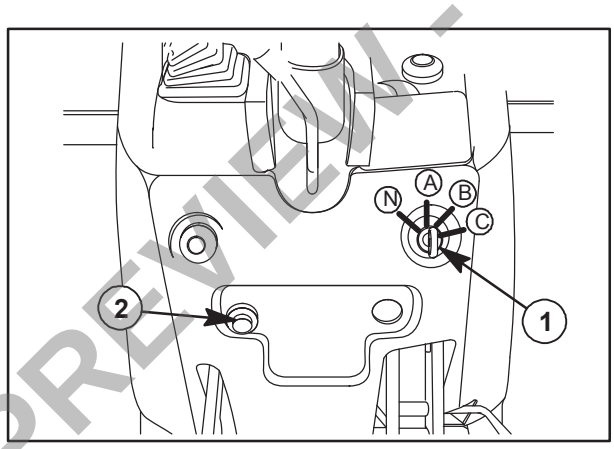
STARTING IN LOW OUTSIDE TEMPERATURE CONDITIONS

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

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

STARTING WITH MANUAL GRID HEATER

1. Turn the ignition key to position B (ON).
2. Activate the grid heater by pressing button 2, fig.1; keep it pressed for 15 sec.
3. Move the ignition key to position C.
4. Start the engine while holding down button 2 untill the engine starts.



1

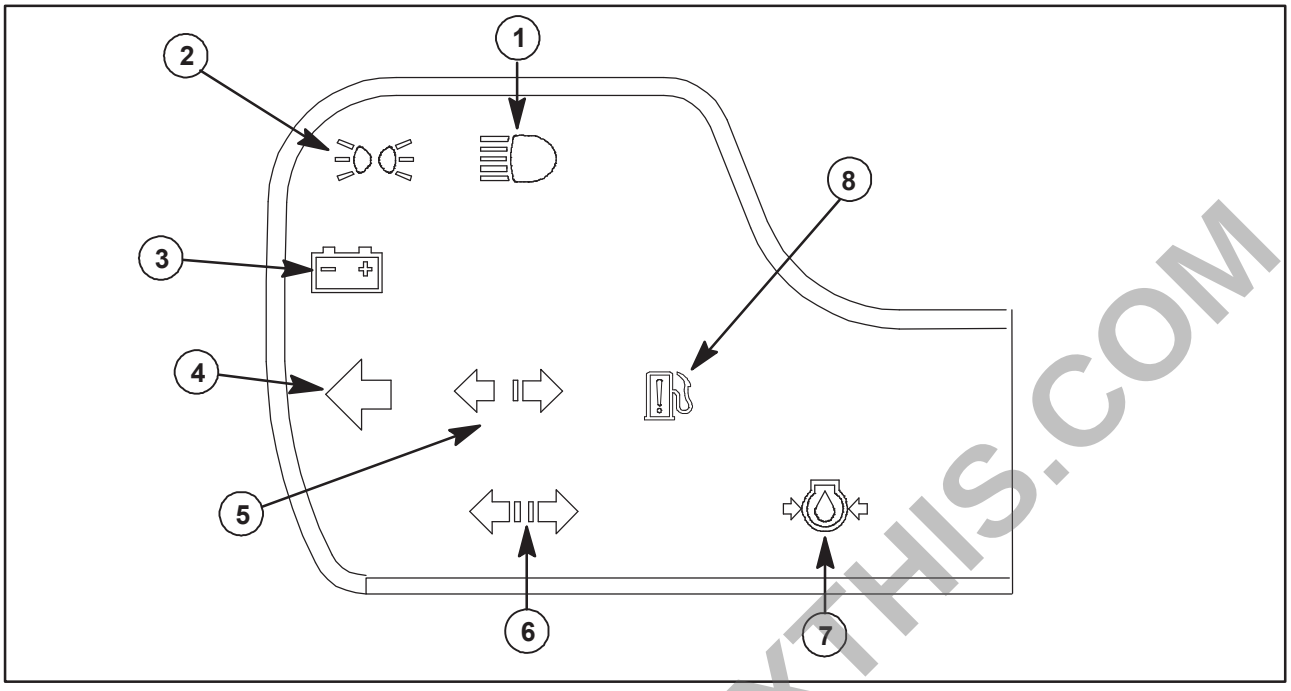
STARTING WITH MANUAL GRID HEATER ON REQUEST

⚠ WARNING ⚠

The tractor can be equipped with a device for starting in cold climates. Do not use ether with the grid heater installed. It will explode in the intake manifold.
If you find starting difficult in cold climates, refer to your dealer.

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5

1. Main beam indicator (blue)

The light illuminates when the headlights are on main beam.

2. Side lights indicator (green)

Lights up when the side lights are switched on.

3. Battery charging system malfunction light (red)

It should go out once the engine starts.

4. Tractor left turn indicator (green)

Flashes in unison with the tractor left turn indicators.

5. First trailer turn indicator lights (green)

Flashes in unison with the tractor turn indicators, if connected.

6. Second trailer turn indicator lights (green)

Flashes in unison with the tractor turn indicators, if connected.

7. Low engine oil pressure indicator (red)

The light should go out a few seconds after the engine is started.
If it stays on when the engine is running, switch off the engine 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 speeds, with the tractor stationary, the light may illuminate, even if no faults are present.

8. Water in fuel (red)

Flashes in case of water in fuel.

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ENGINE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine overheating.	Cooling system clogged.	Flush cooling system.
	Thermostat malfunction.	Check thermostat.
	Hoses leaking.	Tighten hose connectors.
	Temperature indicator or gauge malfunction.	Contact your dealer.
Excessive fuel consumption.	Wrong fuel type.	Use right fuel type.
	Air filter dirty or clogged.	Carry out maintenance on air filter.
	Engine overload.	Change to lower gear or reduce load.
	Valve clearance wrong.	Check and adjust.
	Equipment wrongly adjusted.	Refer to equipment manual for correct operation.
	Engine temperature too low.	Check thermostat.
	Too much ballast.	Adjust ballast to correct weight.
	Fuel injection nozzles clogged.	Have your dealer service the injectors.

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FLEXIBLE MAINTENANCE

OPERATION 1

CLUTCH ADJUSTMENT – Figs. 1 and 2

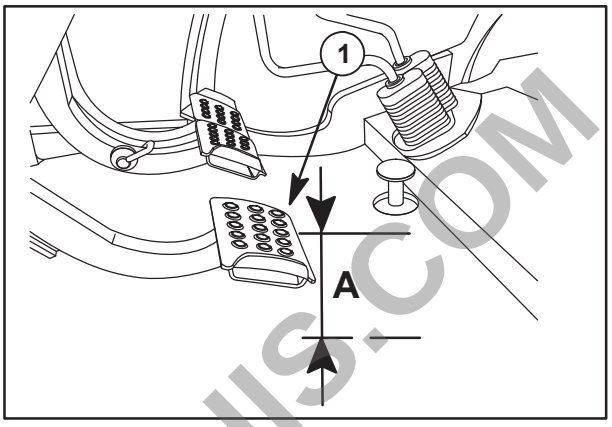
If the clutch pedal position is uncomfortable (too high) or it will not reach its upper rest position (to prevent the clutch slipping) check that distance **A**, on clutch pedal (1) fig. 1 is 35–40 mm (1.4–1.6 in) if not, adjust the pedal as follows:

– Release lock nuts (1) fig. 2 and turn hexagon sleeve (2) anti–clockwise;

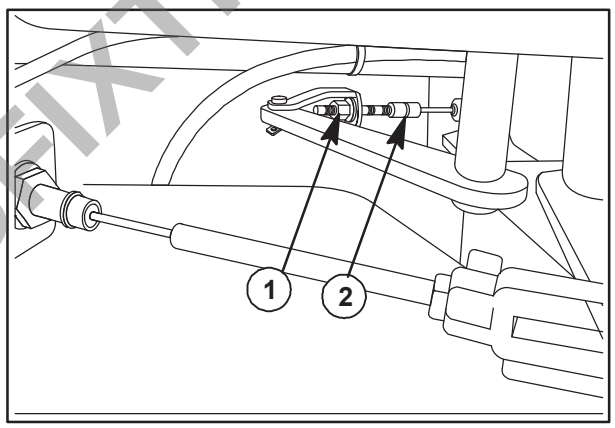
– Check that distance **A** corresponds with the value given above;

– Tighten lock nuts (1) fig. 2;

– Re–check that the pedal travel is as specified.



1



2

⚠ CAUTION ⚠

The distance must be measured from the pedal centre as shown in fig. 1.

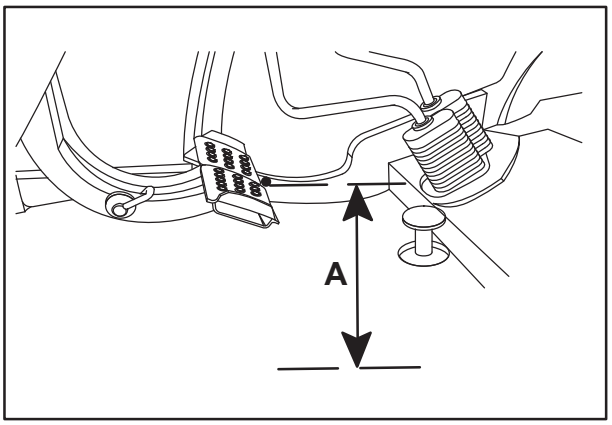
OPERATION 2

BRAKE PEDAL ADJUSTMENT – Fig. 3– 4

Adjusting height of service brake pedals

– With the brake pedals connected to their respective forks and the pedal connecting pin released, check pedal adjustment.

– Check that pedal free travel (A) is the same for each pedal and does not exceeds 80 mm.



3

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