# LUBRICATION AND MAINTENANCE CHART

The operation numbers in the second column reference the operations and illustrations on the following pages of this section.

| Hours of work | Operation number | Maintenance operations | Check efficiency | Fill−up level | Clean | Grease | Adjust | Renew | Page |
|---|---|---|---|---|---|---|---|---|---|
| Flexible maintenance | 1. | Radiator expansion tank | | X | | | | | 4−9 |
| | 2. | Radiator | | | X | | | | 4−9 |
| | 3. | PTO engine clutch | | | | | X | | 4−10 |
| | 4. | Brakes | | | | | X | | 4−10 |
| | 5. | Parking brake | | X | | | X | | 4−10 |
| | 6. | Mechanically controlled central clutch | | | | | X | | 4−11 |
| | 7. | Hydraulically controlled central clutch | | X | | | X | | 4−12 |
| | 8. | Central clutch oil level | | X | | | | | 4−12 |
| | 9. | Track tension rollers and wheels | X | | | | | | 4−13 |
| | 10. | Track chains | | | | | X | | 4−13 |
| | 11. | Steering clutch oil TK4050 and TK4060 | | X | | | | | 4−13 |
| | 12. | Steering clutch oil TK4020, TK4030 and TK4040 | | X | | | | | 4−14 |
| | 13. | Washer fluid reservoir | | X | | | | | 4−14 |
| When the indicator light illuminates | 14. | Dry air filter (external cartridge) | | | X | | | | 4−15 |
| | 15. | Air filter outlet valve | | | X | | | | 4−16 |
| | 16. | Fuel sediment filter | | | X | | | | 4−16 |
| Every 10 hours | 17. | Engine sump oil level | | X | | | | | 4−17 |
| Every 50 hours | 18. | Front leaf spring pivot pin | | | | X | | | 4−18 |
| | 19. | Rear support bar pivot (iron track models only) | | | | X | | | 4−18 |
| | 20. | Central clutch engagement sleeve | | | | X | | | 4−18 |
| | 21. | Rear support bar pivot. (2 lubricators) (rubber track models only) | | | | X | | | 4−19 |

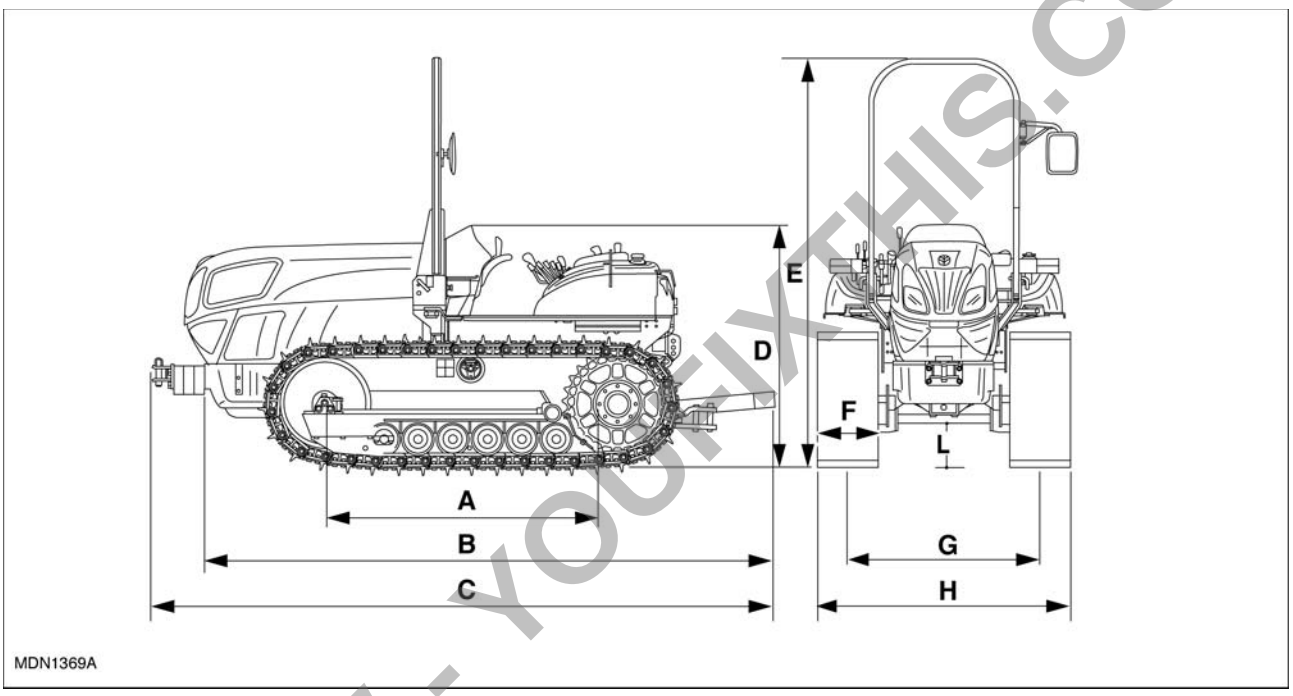
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# SECTION 8
# SPECIFICATIONS AND DATA

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




1

| Dimensions (mm) | TK4020V | TK4020F | TK4030V | TK4030F | TK4030 | TK4020F TK4030F R TRAK |
|---|---|---|---|---|---|---|
| A . . . . . | 1341 | | | | | |
| B . . . . . | 3053 | | | | | |
| C . . . . . | 3353 | | | | | |
| D . . . . . | 1346 | | | | | |
| E . . . . . | 2228 | | | | | |
| F . . . . . | 250 to 270 | 300 to 310 | 250 to 270 | 300 to 310 | 310 to 350 | 300 |
| G . . . . . | 900 | 1000 | 900 | 1000 | 1000 | 1000 |
| H . . . . . | 1150 to 1170 | 1300 to 1310 | 1150 to 1170 | 1300 to 1310 | 1410 to 1450 | 1300 |
| L | 383 | | | | 413 | 383 |



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# EVERY 500 HOURS OF WORK (models TK4020, TK4030 and TK4040)

**OPERATION 36.**

**ENGINE OIL FILTER − Fig. 44**

**ENGINE**

***IMPORTANT:*** *Operation 36. describes the process of draining oil from the engine sump and changing the relevant oil filter. The frequency of 500 hours can anyhow be affected by other factors:*

### Cold temperature operation

Engines operating in temperatures below − 12 °C or in arduous conditions should have the oil changed every 300 hours of operation. The filter must be changed regularly as prescribed after 600 hours.

### Diesel fuel sulphur content

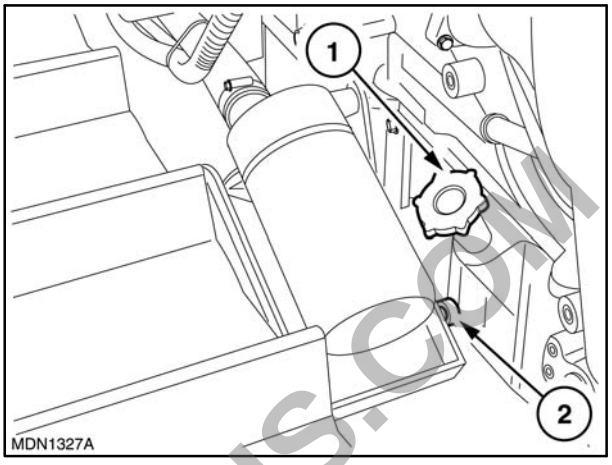
In some countries, locally available diesel may have a high sulphur content, in which case the oil and filter should be changed sooner, as follows:

- sulphur content between 0.5% to 1.0%
  - change oil every 300 hours;
- sulphur content between 1.0% to 1.3%
  - change oil every 150 hours;

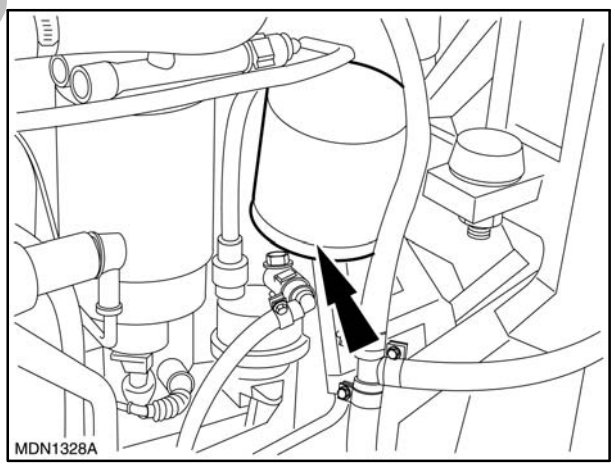
If in doubt, or if it is not possible to check the instructions given, keep to the interval recommended in the **Operator's Manual**.

### Drain oil and renew filter

- place a container under the engine sump;
- remove the drain plugs (**2**) from the sump (one on each side) and drain off the oil;
- screw the plugs back on;
- unscrew the filter (**1**) figure 44, drain it of the remaining oil and discard it as required by the current regulations in your country;
- clean the surface of the filter seat;
- lightly oil the seal of the new filter, screw it down into contact with the support and tighten it by hand by $^{3}/_{4}$ of a turn, or a full turn at most;
- fill up with new oil through the fill point (**1**) figure 43;
- start the engine, leave it idling for at least 3 minutes; switch it off and check that the oil level is between the MIN and MAX marks on the dipstick. If necessary, top up with oil.




43




44

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# ENGINE

| CONDITION | 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 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 |
| | 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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# CONTROLS AND INSTRUMENTS

1. **Central clutch control lever (standard version):**

− forward = clutch engaged;

− back = clutch disengaged;

**⚠ CAUTION ⚠**

To engage the clutch, the lever must be fully pushed forward.

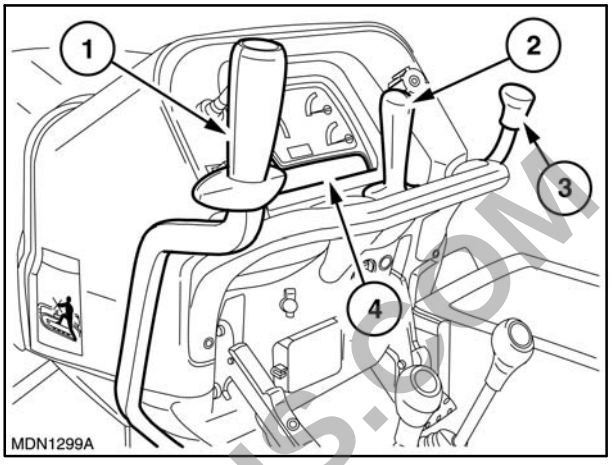
***NOTE:*** *On request, the functions of the lever (**1**) are transferred to the hydrostatically controlled steering clutch control lever (**1**), see pages 3−8 and 3−9.*

2. **Steering clutches lever:**

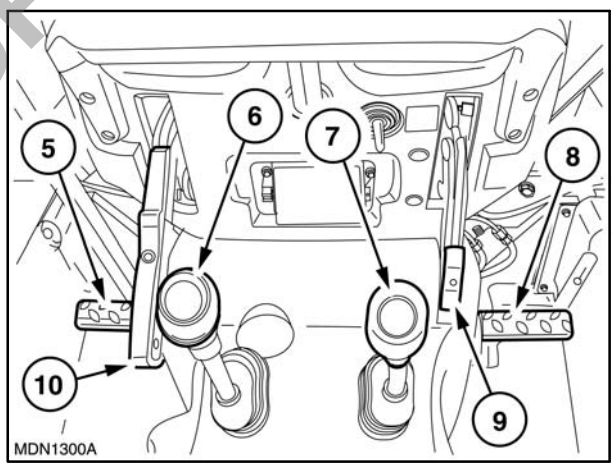
− turned left: left clutch control;

− turned right: right clutch control;

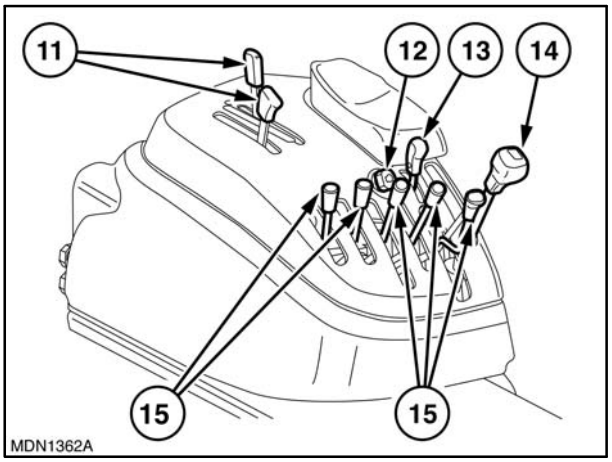
3. **Hand throttle lever.**
4. **Control panel.**
5. **LH brake pedal.**
6. **Range gear lever.**
7. **Main shift control lever.**
8. **RH brake pedal.**
9. **PTO clutch lever.**
10. **Handbrake:**
    − raised = brake locked;
    − lowered = brake released;
11. **Hydraulic lift levers.**
12. **Capacity adjustment knob**.
13. **Lift−o−Matic control lever.**
14. **Creeper lever or Shuttle lever (depending on model).**
15. **Control levers for auxiliary control valves for remote controls.**




3




4




5



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## STARTING THE TRACTOR

- Make sure that the central clutch is disengaged (lever **1** in neutral) and move the shift and range levers to the speed of the required gear.
- Accelerate the engine as necessary.
- Engage the central clutch by slowly moving the lever forward, until the tractor starts to move, then push the lever fully forward.

## STOPPING THE TRACTOR

- Reduce engine speed.
- Disengage the central clutch and move the main shift lever to the neutral position.
- Brake with both pedals, lock with the handbrake with the engine stopped, engage a gear and engage the central clutch lever.

## STOPPING THE ENGINE

**⚠ CAUTION ⚠**

Before stopping the engine, allow it to idle at 1000 rpm for at least 3 minutes.

- Turn the starter key (**1**) fig. 5 to position **A.**

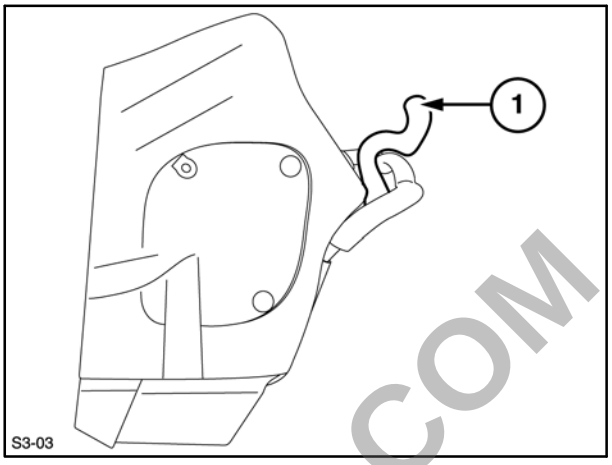
**⚠ CAUTION ⚠**

With outside temperatures below 0 °C, in order to prevent separation of the paraffin components in the diesel fuel, leading to a reduction in fluidity and subsequent fuel supply problems (especially when starting the engine), **mix the diesel fuel with the antifreeze** or a similar product in the proportions described on the container.

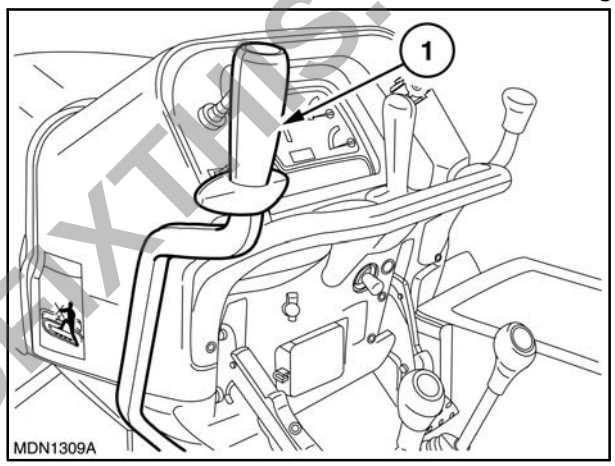
Winter additive must be mixed with the diesel fuel **before** there is any sign of paraffin separation; adding it later will have no effect on an engine if the cold has already caused the engine to stop running or prevent it being started.

Put the conditioner in the tank first, followed by the diesel fuel.

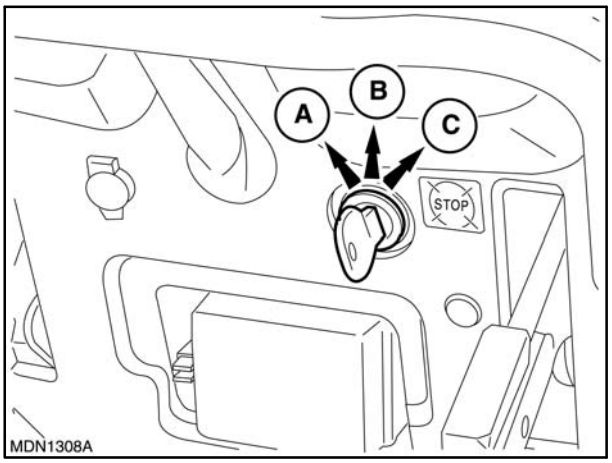
**The antifreeze** will guarantee optimum fuel supply to the engine, without reducing performance, even at *outside temperatures of below −20 °C.*




3




4




5



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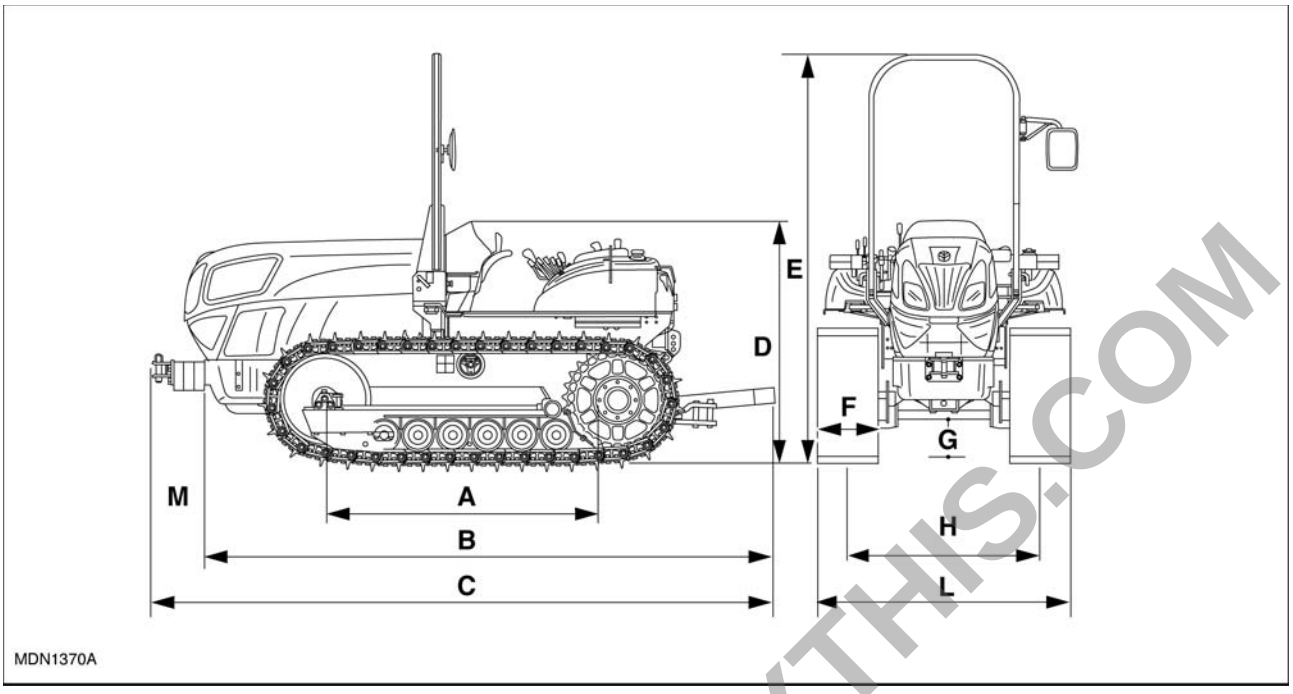
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| Hours of work | Operation number | Maintenance operations | Check efficiency | Fill−up level | Clean | Grease | Adjust | Renew | Page |
|---|---|---|---|---|---|---|---|---|---|
| **Every 100 hours** | 22. | Transmission oil cooler | | | **X** | | | | 4−20 |
| | 23. | Intercooler | | | **X** | | | | 4−20 |
| | 24. | Condenser | | | **X** | | | | 4−20 |
| | 25. | Cab air filters | | | **X** | | | | 4−20 |
| | 26. | Cab air recirculation filters | | | **X** | | | | 4−21 |
| **Every 300 hours** | 27. | Alternator belt | | | | | **X** | | 4−22 |
| | 28. | Steering clutch filter TK4050 and TK4060 | | | **X** | | | | 4−22 |
| | 29. | Steering clutch filter TK4020, TK4030 and TK4040 | | | **X** | | | | 4−22 |
| | 30. | Final drives oil | | **X** | | | | | 4−23 |
| | 31. | Transmission and lift oil | | **X** | | | | | 4−23 |
| | 32. | Dry air filter (external cartridge) | | | **X** | | | | 4−23 |
| | 33. | Oil filter, lift | | | | | | **X** | 4−24 |
| | 34. | Brakes | | | | | | | 4−24 |
| | 35. | Battery | | | | | | | 4−24 |
| **Every 500 hours** TK4020, TK4030 TK4040 | 36. | Engine sump oil and filter | | | | | | **X** | 4−25 |
| | 37. | Fuel filter | | | | | | **X** | 4−26 |
| | 38. | Fuel pre−filter | | | | | | **X** | 4−27 |
| **Every 600 hours** TK4050 TK4060 | 39. | Engine sump oil and filter | | | | | | **X** | 4−28 |
| | 40. | Fuel filter | | | | | | **X** | 4−29 |
| | 41. | Fuel pre−filter | | | | | | **X** | 4−30 |
| **Every 1200 hours or 1 year** | 42. | Dry air filter (external and internal cartridge) | | | | | | **X** | 4−31 |
| | 43. | Steering clutches oil | | | | | | **X** | 4−31 |
| | 44. | Fuel tank | | | **X** | | | | 4−32 |
| | 45. | Cab air filters | | | | | | **X** | 4−33 |
| | 46. | Cab air recirculation filters | | | | | | **X** | 4−33 |

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2

| Dimensions (mm) | TK4040 | TK4040M | TK4050 | TK4050M | TK4060 |
|---|---|---|---|---|---|
| A . . . . . | 1586 | | | 1656 | |
| B . . . . . | 3132 | | | | |
| C . . . . . | 3552 | | | | |
| D . . . . . | 1458 | | | | |
| E . . . . . | 2410 | | | | |
| F . . . . . | 310 to 350 | 350 to 400 | 310 | 400 to 450 | 450 |
| G . . . . . | 363,5 | | | | |
| H . . . . . | 1100 | 1300 | 1100 | 1300 | |
| L . . . . . | 1410 to 1450 | 1650 to 1700 | 1410 to 1450 | 1700 to 1750 | 1750 |
| M . . . . . | 420 | | | | |

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**OPERATION 37.**

**FUEL FILTER**

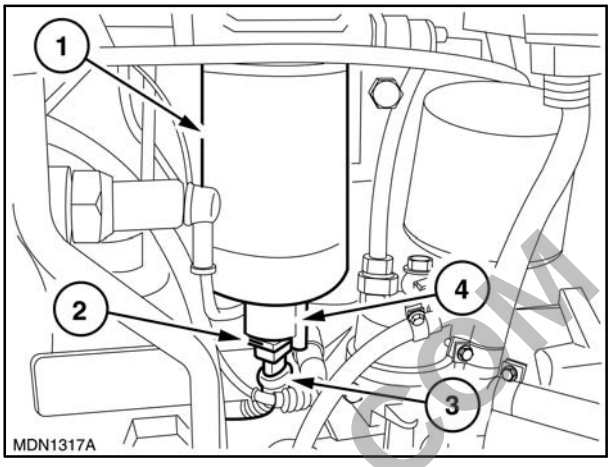
***IMPORTANT:*** *Before loosening or removing any components of the injection system carefully clean the area around the components involved in the maintenance work to prevent contaminating the system.*

To change the filter, proceed as follows:

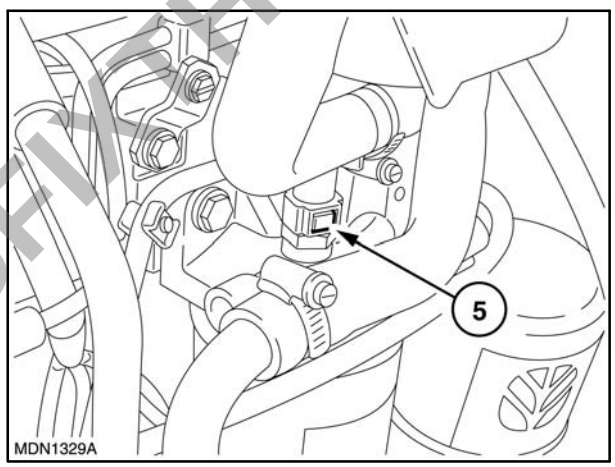
- Place a container under the filter (**1**);
- remove the retaining pin (**2**) and disconnect the sensor (**3**);
- unscrew the drain plug (**4**) at the base of the filter to drain off the fuel;
- remove the filter cartridge (**1**);
- lightly oil the seal, screw the new cartridge down into contact with the support and tighten it by hand by $^{3}/_{4}$ of a turn (15 Nm);
- fit the sensor (**3**) back on and secure it with the retaining pin (**2**).

After changing the filter cartridge, it is necessary to bleed the fuel system as follows:

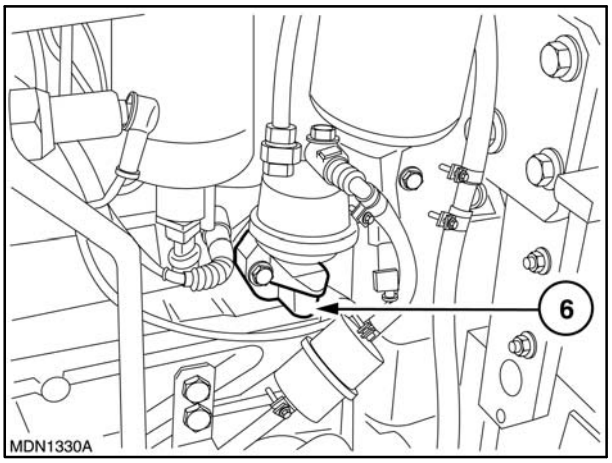
- press the two retaining buttons (**5**) (one is behind the union) and disconnect the pipe from the filter head;
- pump the primer lever (**6**) until the fuel coming out of the filter contains no air bubbles,
- refit the pipe by simply pushing it downwards to lock it on the head of the filter.




45




46




47



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# ENGINE

| CONDITION | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| 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 |

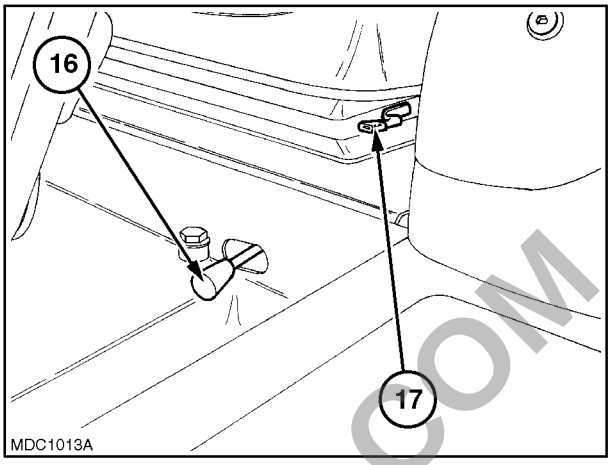
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16. **PTO engagement lever.**

17. **Seat forward−backward movement lever.**




6

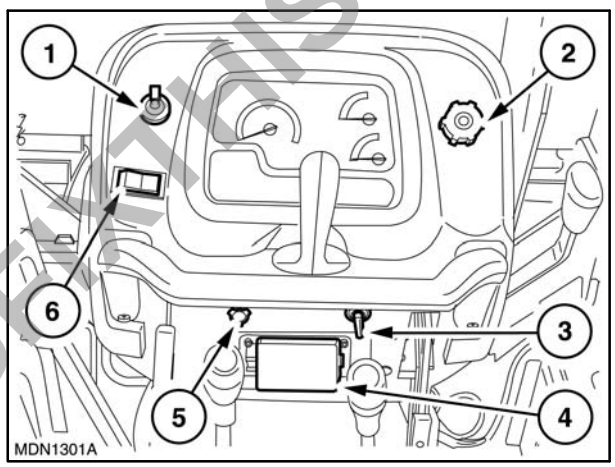
1. **Direction indicators switch.**
   - turn left: lever moved to left;
   - turn right: lever moved to right;
   - move up to flash the full beam headlights.
2. **Lights switch**

 Neutral phase;

 side/tail lights;

 dipped beam;

 Main High Beams.




7

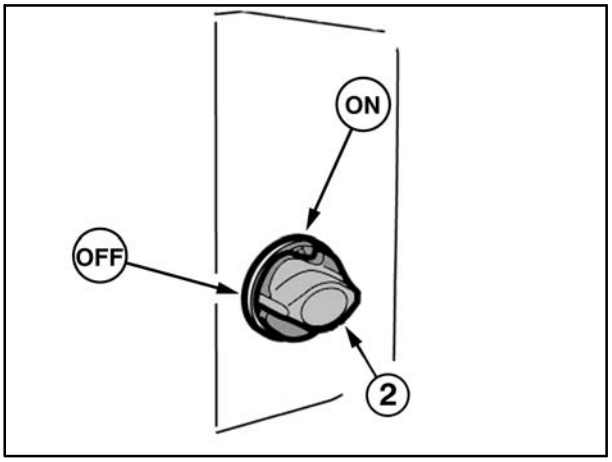
3. **Ignition switch.**
4. **Fusebox**.
5. **Two−pole power socket**.
6. **Parking lights switch.**

## BATTERY ISOLATOR SWITCH (2)

**(“ON” indication visible)**; the circuits are connected to the battery.

**(“OFF” indication visible)**; electrical circuits are disconnected from battery.

*Functional description of this device is detailed into section 4 “LUBRICATION and MAINTENANCE” under Electrical System chapter.*




8



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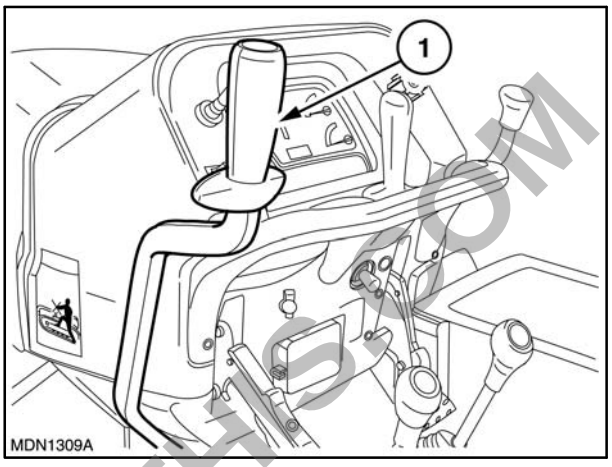
# CENTRAL CLUTCH (STANDARD VERSION)

The central clutch (engine − gears), dry dual disk−type with engagement at dead centre, remains engaged or disengaged according to the position of lever (**1**).

- lever forward = clutch engaged;
- lever back = clutch disengaged;

To start the tractor, engage the clutch slowly and, when the tractor starts to move, push the lever fully forward in order to pass the point of major resistance (dead centre).

The lever must be pulled completely back when the gears are engaged; in this manner the lever acts on a brake, which stops gear rotation, making engagement easier.




8

**⚠ CAUTION ⚠**

Whenever you leave the machine, switch off the engine, **(ignition switch in position A, no circuit powered with removable key)** engage the central clutch lever, disengage the PTO lever, press both brake pedals and pull up the handbrake. Leaving the driving seat without having first pulled up the handbrake activates the acoustic alarm for 10 seconds.

## OPERATOR SAFETY

The machine has an acoustic alarm that is activated when the Operator leaves the driving seat without having first completed the following operations.

**Clutch on;**

***NOTE:*** *In this situation, with the ignition switch in position* ***B (engine off and various circuits powered)****. The alarm sounds for 10 seconds, with the PTO engaged and the handbrake off. To prevent the alarm sounding on leaving the driving seat, it is necessary to have first pulled up the handbrake and disengaged the PTO.*

**Clutch off;**

***NOTE:*** *In this situation, with the ignition switch in position* ***B (engine off and various circuits powered)****. The alarm sounds continuously. In this situation, the position of the handbrake and PTO control levers has no effect. To turn off the alarm, it is essential to carry out the following operations:*

- *engage the central clutch control lever;*
- *apply the parking brake;*
- *disengage the PTO control lever.*

***IMPORTANT:*** *Before leaving the driving seat, for the operator's safety, it is necessary to:*

- *engage the central clutch control lever;*
- *apply the parking brake;*
- *disengage the PTO control lever;*
- **turn the ignition switch onto position A, no circuit powered (removable key).**



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