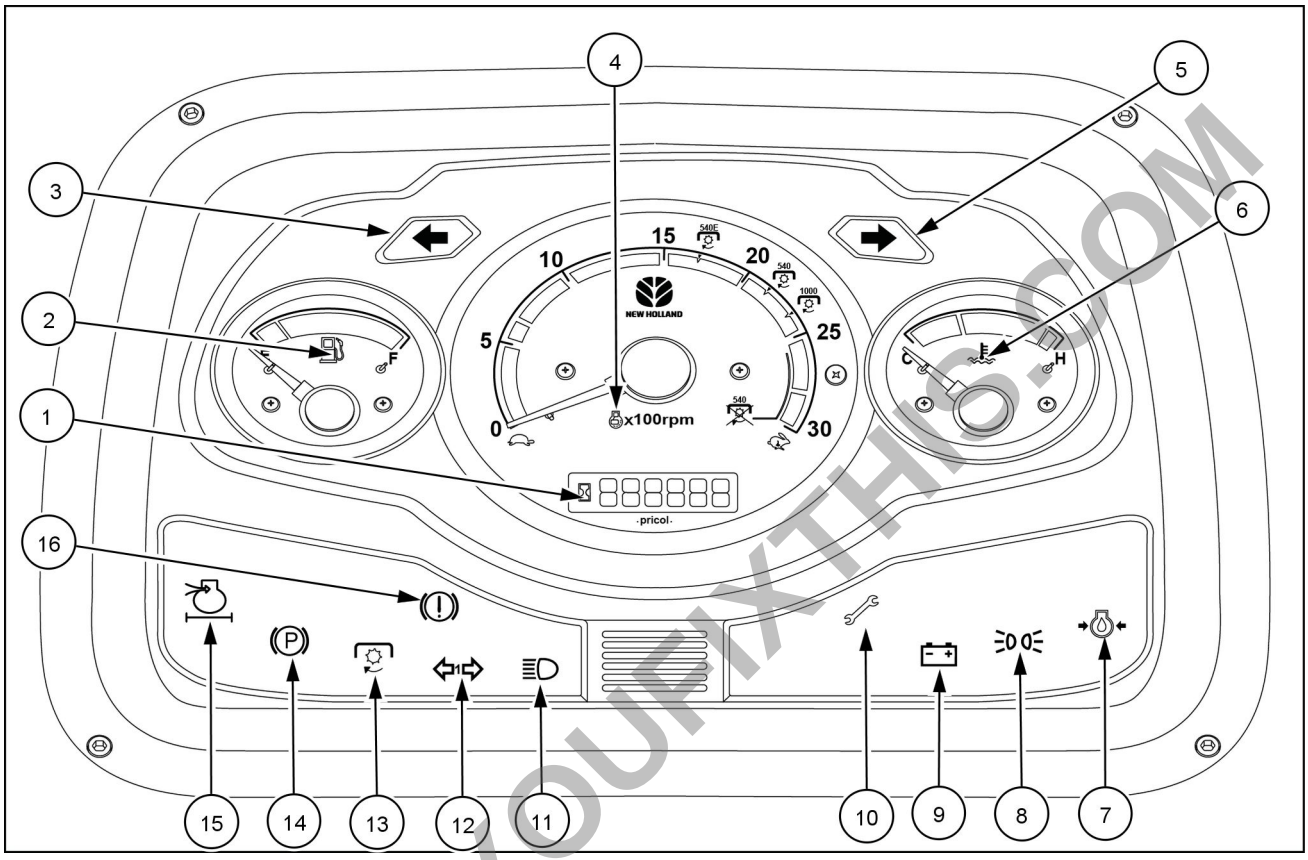
Forward controls

Instrument cluster



GNIL17TRO0086FA 1

The indicator lights on the control panel inform you of the operational condition of the machine. Some of these indicate faults arising during operation. An indicator light coming 'ON' may be followed by a continuous or intermittent buzzer. Depending on the severity of the trouble, the alarm will sound.

1 **Digital hour meter**
The digital hour meter indicates the number of hours the tractor has run.

2 **Fuel level gauge**
This gauge shows the fuel level in the tank.

3 **Left-hand direction indicator (green)**
This indicator light flashes at the same time as the tractor's left-hand direction indicator.

4 **Revolution counter**
Indicates the engine **— RPM**. Each subdivision of the graduated scale represents **100 RPM**.

5 **Right-hand direction indicator (green)**
This indicator light flashes at the same time as the tractor's right-hand direction indicator.

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4 - OPERATING INSTRUCTIONS

Commissioning the unit

Before Operating

⚠ CAUTION

Avoid injury and/or machine damage!
Before driving the machine, make sure that you are familiar with the operation of the machine and the Multi-Function Handle (MFH). Do not use the Shuttle Mode option until you are completely familiar with the operation of the machine and the MFH.
Failure to comply could result in minor or moderate injury.

C0117A

Read this section carefully for a thorough understanding of operational requirements. Even if you operate other tractors of different make & model, you should thoroughly read this section of the manual and make sure that you are familiar with the location and function of all the controls of this tractor.

Do not start the engine or attempt to drive or operate the tractor until you are fully accustomed with all controls. It is too late to learn once the tractor is moving. If in doubt about any aspect of operation of tractor, consult your Authorized Dealer.

See Section 7 for lubrication and maintenance requirements. Tractor specifications can be found in Section 9

Running-In Procedure

Your tractor should provide long and trusted service, if given proper care during the first **50 h** running-in period and if serviced at the recommended intervals

Avoid overloading the engine. Operating in a high gear under heavy load may cause engine overloading. Overloading can be ascertained by checking whether engine is responding to a throttle increase.

Do not operate the engine without load. This can be as harmful to the engine as overloading. Ensure that the engine is subjected to heavy as well as light loads during the running-in period.

Use the lower gears when pulling heavy loads and avoid continuous operation at constant engine speeds. Operating the tractor in a low gear with light load and high engine speed will waste fuel. You will be able to save fuel and minimize engine wear by selecting the correct gears for a particular operation.

Check the instruments frequently. Keep the radiator and various oil reservoirs filled to the recommended levels.

PRE-OPERATION CHECKS

Before operating the tractor, ensure that you are thoroughly familiar with the location and operation of the controls.

Perform daily lubrication and maintenance operation in accordance with Section 7 .

After completing the daily maintenance operations, take a walk around tractor for visual inspection. Pay particular attention and check the following items:

1. Fan belt for cracks.
2. Engine area for accumulation of debris.
3. Hoses, lines and fittings for leaks and damages.
4. Tyres for damage.
5. Hardware for looseness.
6. Leakage at joints.

Make necessary repairs before using the tractor.

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7 - MAINTENANCE

General information

Introduction

This section gives full details of the service procedures necessary to maintain your tractor at peak efficiency. The lubrication and maintenance chart on page 4-6 provides a ready reference to these requirements. Each operation has been numbered for easy reference. If in doubt about any aspect of lubrication and maintenance, consult your authorized dealer.

Safety precautions

Read and observe all safety precautions listed in “Servicing the Tractor” in the introduction section at the front of this Manual.

NOTE: *Dispose off used filters and fluids properly as per the laws of the country.*

⚠ CAUTION

Avoid injury!
Do not remove the vent caps while the engine is running.
Failure to comply could result in minor or moderate injury.

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During the first 50 hour operation

In addition to the regular maintenance operations listed, check following items every **10 h** or daily during first **50 h** of operation:

1. Check engine oil.
2. Check Transmission oil level
3. Wheel nuts for tightness.
4. Front axle hub oil levels (4 wheel drive)

NOTE: *Park the tractor on level ground and where applicable, extend all cylinders on implements or attachments before checking oil levels.*

The First 50 Hours Service

In the first **50 h** service, make sure that following additional service operations are carried out. Items are listed in the ‘First **50 h** service’ check list (See Warranty Booklet supplied along with this manual).

- Check and adjust fan/alternator belt tension.
- Change engine oil and filter.
- Change primary fuel filter.
- Change hydraulic oil filter.
- Check 4WD differential oil level
- Check 4WD axle hub oil level
- Check and tighten all hose connections of cooling system.
- Check and tighten all connections of air intake.
- Check and torque front end weight clamp bolts (where fitted)
- Check torque of all wheel nuts
- Clean air intake / air filter

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2 - SAFETY INFORMATION

Safety rules

General safety rules

Modifications made to this machine may increase the likelihood or potential for debris accumulations that would normally not be present. Modifications include frame-mounted attachments, plates, screens, or other aftermarket equipment. Operators of modified machines must be aware of accumulations of organic debris and/or material and overall machine cleanliness.

Modified machines require additional and more frequent inspection and cleaning during usage. The machine may require inspection and cleaning multiple times per day during usage. Operators must be aware of the operating environment and conditions. Operators must take appropriate actions to maintain the machines during use. In particular, pay attention to the following machine areas:

1. In and around the engine compartment
2. Hot exhaust components
3. Moving, turning, or rotating machine components

Operators that operate the machine in a typical applications and/or conditions must be aware of accumulations of organic debris and/or material and overall machine cleanliness. Pay particular attention where material accumulations are possible or may result.

Machines that operate in a typical applications or conditions require additional and more frequent inspection and cleaning during usage. The machine may require inspection and cleaning multiple times per day during usage. Operators must be aware of the operating environment and conditions. Operators must take appropriate actions to maintain the machines during use. In particular, pay attention to the following machine areas:

1. In and around the engine compartment
2. Hot exhaust components
3. Moving, turning, or rotating machine components

Safety precautions

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read and take the following precautions before driving, operating or servicing the tractor. Equipment should be operated only by those who are responsible, trained & authorized to do so.

PRECAUTIONARY STATEMENTS

Throughout this manual you will see text, preceded by the words NOTE, ATTENTION, IMPORTANT, CAUTION, WARNING or DANGER. Such text has the following significance

Machine Safety

NOTE: *This text stresses a correct operating technique or procedure.*

ATTENTION: *This text warns the operator of potential machine damage if a certain procedure is not followed.*

NOTICE: *This text informs the reader about something that he needs to know to prevent minor machine damage if a certain procedure is not followed*

Personal safety

⚠ CAUTION ⚠

The word CAUTION is used where a safe behavioral practice, according to operating & maintenance instructions and common safety practices will protect the operator and others from accident involvement.

⚠ WARNING ⚠

The word WARNING denotes a potential or hidden hazard which could possibly cause serious injury. It is used to warn.

⚠ DANGER ⚠

The word DANGER denotes a forbidden practice in connection with a serious hazard

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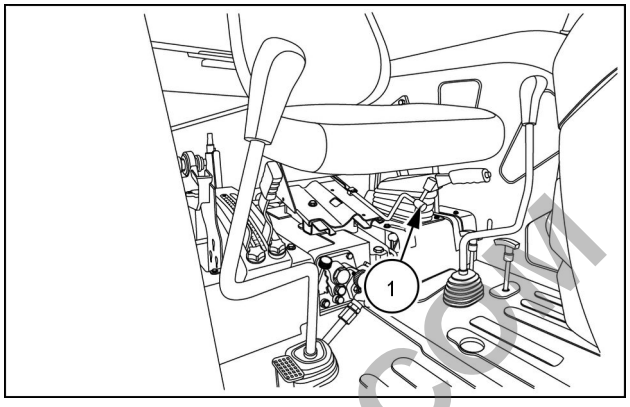
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Travel and height adjustment

Operator seat is mounted on an inclined plane with sliding base. When seat has to be moved backward or forward, press lever **(1)** upwards & push the seat accordingly.

This movement will give you a combination of height & travel adjustment. You can adjust seat to a position of your comfort.



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Operator's seat belt

Seat Belt (If equipped)

⚠ WARNING

Equipment failure could cause accident or injury!
Always fasten the seat belt securely before you operate the machine. Inspect seat belt parts for wear and damage. Replace any and all worn or damaged parts of the seat belt prior to operation.
Failure to comply could result in death or serious injury.

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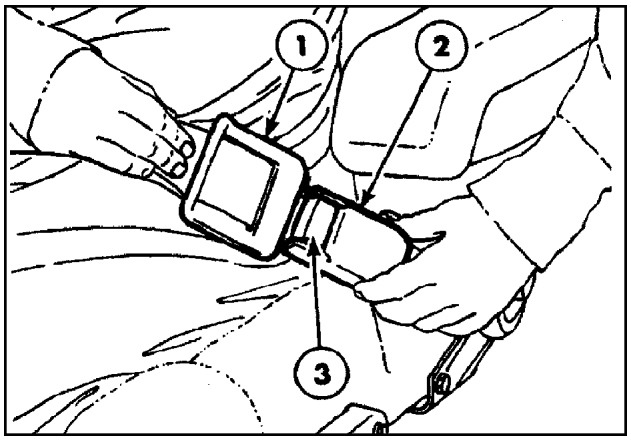
To fasten seat belt, pull the belt from reel and push tongue **(1)** into the buckle end **(2)** until a 'click' sound indicates it is properly engaged. Press a red release button **(3)** on the buckle and remove tongue from the buckle.

CLEANING THE SEAT AND SEAT BELT

The belt may be sponged with clean, soapy water. Do not use solvents, bleach or dye on the belt as these chemicals will weaken the webbing.

Replace the belt when it shows signs of fraying, damage or general wear.

Do not use solvents to clean the seat. Use only warm water with a little detergent added or a proprietary brand of automotive upholstery cleaner. Avoid wetting the seat more than normal, unless it is absolutely necessary.



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Servicing the tractor



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1. The cooling system operates under pressure. It is dangerous to remove the radiator cap when the system is hot or when engine is running. Always turn the cap slowly to the first stop, and allow the pressure to escape before removing the cap fully.
2. Do not smoke while refuelling the tractor. Keep away from open flames.
3. Keep the tractor and implement, particularly brakes and steering, maintained in a reliable and satisfactory condition to ensure your safety and to comply with legal requirements.
4. Stop the engine before performing any service on the tractor.
5. To prevent fire or explosion, keep open flames away from battery or cold weather starting aids. To prevent sparks which could cause explosion, use jumper cables according to instructions.
6. Hydraulic fluid in hydraulic system and fuel in the injection system operate under high pressure. Escaping hydraulic fluid or fuel under pressure can penetrate the skin causing serious injury. Unqualified persons should not disassemble or attempt to adjust a pump, injector, nozzle or any other part of the fuel injection or hydraulic systems. Failure to follow these instructions can result in serious injury.

- Do not use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks.
- Stop the engine and relieve pressure before connecting or disconnecting lines.



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- Tighten all connections before starting the engine or pressurizing lines.
- If fluid gets injected into the skin, obtain medical attention immediately otherwise it can result into gangrene.

7. You (or any body else) should not modify or alter tractor or any of its components without consulting your authorized dealer.
8. Continuous long term contact with used engine oil may cause skin cancer. Avoid prolonged contact with used engine oil. Wash skin promptly with soap and water.
9. Keep tractor clean and properly maintained.
10. Dispose off all drained fluids and removed filters properly.
11. Tractor wheels are very heavy. Handle with care and ensure while storing that they should not topple down and cause injury to anybody.

Diesel fuel

1. Under no circumstances should gasoline, alcohol or blended fuels be added to diesel fuel. These combinations can create an explosion hazard. In a closed container such as a fuel tank these blends are more explosive than pure gasoline. Do not use these blends.
2. Never operate without fuel cap. Also it is recommended not to refuel when the engine is running or is hot.

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6 

Engine coolant temperature gauge
This instrument indicates the temperature of the engine coolant.

NOTE: *When engine is switched off, the gauge needle will assume an initial position.*

7 

Engine oil pressure warning light (red)
This indicator light indicates that the engine oil pressure is too low. Stop the engine and investigate the cause.

NOTE: *With low engine oil pressure, this warning light illuminates when the start switch is in the contact position (supply to accessories - ignition).*

8 

Marker lights (green)
This indicator light is illuminated when the tractor lights are turned ‘ON’.

9 

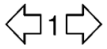
Alternator charging warning light (red)
A steady light indicates that the alternator is not charging the battery.

10 

Service reminder light (yellow)
An illumination on a spanner shape on instrument cluster indicates that your vehicle is due for service. You should take your tractor to the nearby authorized dealer for the necessary service or repair.

11 

High beam headlights (blue)
This indicator light will illuminate when the tractor headlights are switched to high beam.

12 

Trailer direction indicator light (green)
This indicator light flashes together with the tractor or trailer direction indicators, if the first trailer is connected.

13 

Rear Power Take-Off (PTO) indicator light (yellow)
Lights up when the engine is running and the rear Power Take-Off (PTO) is engaged. The indicator light will start to flash if the engine speed exceeds the maximum allowable engine speed for the PTO.

14 

Parking brake warning light (red)
This indicator illuminates when the key start switch is turned ‘ON’ with the parking brake applied.

NOTICE: *To avoid personal injury, always apply parking brake before leaving the tractor seat.*

15 

Air cleaner clog light (yellow)
A red colored light which illuminates when an increase in vacuum occurs in the air intake system during the engine operation, as the switch in the air intake tube detects. This usually indicates a dirty or obstructed air filter.

16 

Indicator lamp (yellow)
This indicator light illuminates and the display shows a warning symbol . The light blinks for **4 s**, after which the symbol on the display disappears and the indicator light stays ‘ON’ steadily. Stop the tractor and investigate the cause of the trouble.

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Transmission

Transmission - Control identification

Shuttle lever is used to engage the transmission into forward or reverse mode. See **3-10**.

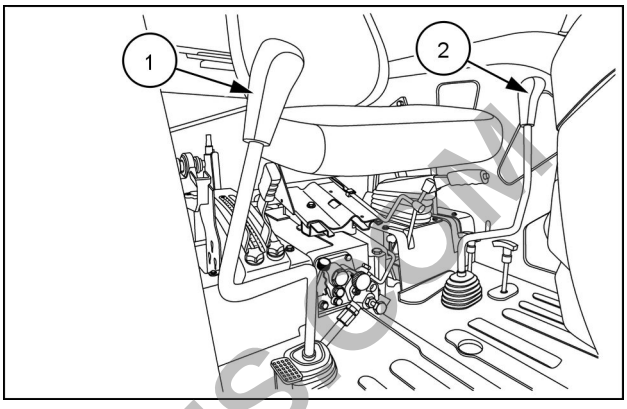
The main gear shift lever **(1)**, image **1** is used to select any one of the four gears. The range gear selector lever **(2)**, image **1** is used to select the high (H.), Medium (M) or low (L) range in 12+12 transmission, image **3**. Similarly, the range gear selector lever **(2)**, image **1** is used to select the high (H), or low (L) range in 8+8 transmission, image **3**.

You have to press clutch while shifting the gear, range or shuttle lever.

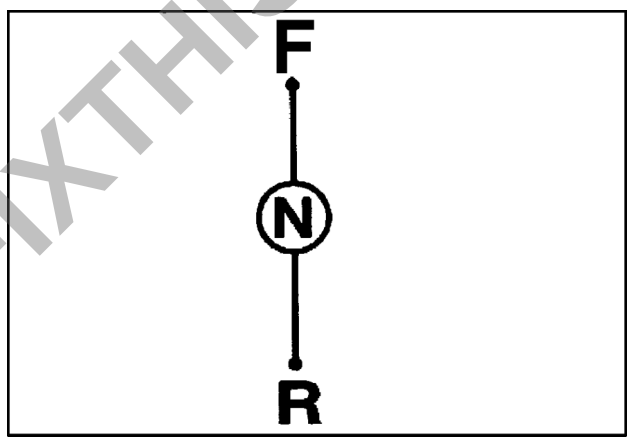
Transmission has two options i.e. 12+12 (twelve forward and twelve reverse gears) and 8+8 (eight forward and eight reverse gears) as standard fitment. However following transmission options are also available.

1. 20+20 (Creeper) with 12+12 standard transmission.
2. 24+24 (Splitter) with 12+12 standard transmission
3. 12+12 (Creeper) with 8+8 standard transmission.
4. 16+16 (Splitter) with 8+8 standard transmission.

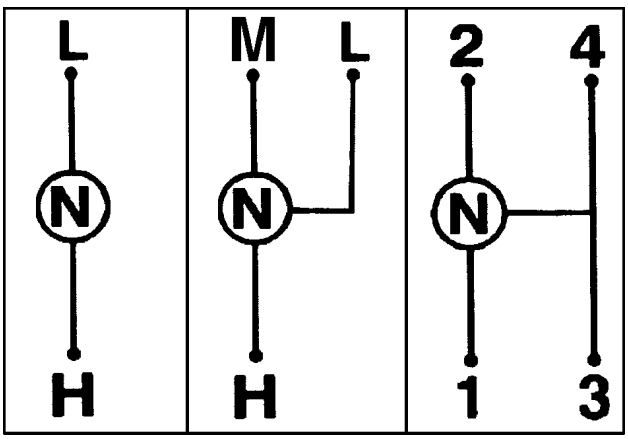
NOTE: *A safety switch prevents operation of the starter motor unless the Shuttle lever is in neutral position (N)*



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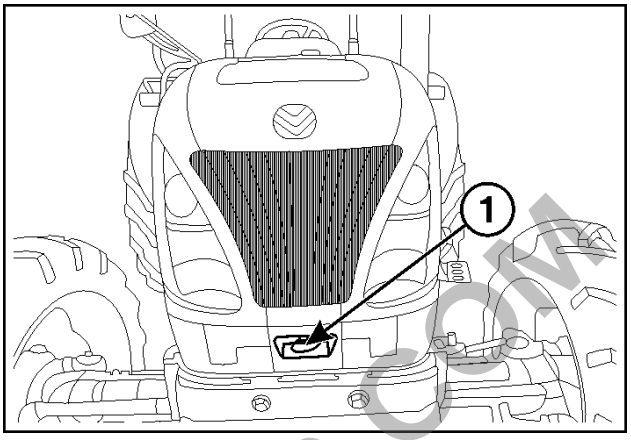
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Access panels

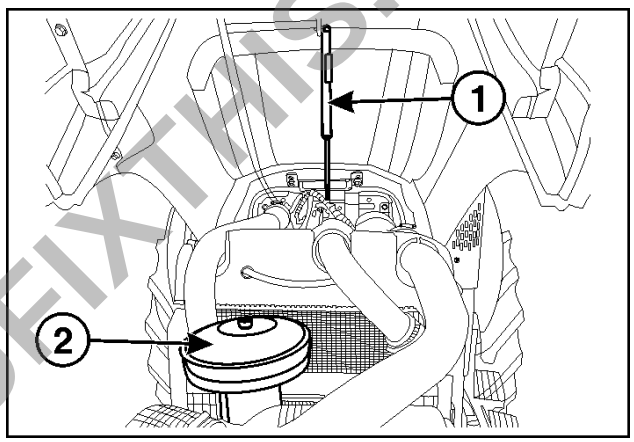
To gain access to air cleaner, battery & radiator, slide the lock to right and with the help of handle **(1)** & raise the hood.

(Image 2)

To maintain hood in the raised position, a gas strut **(1)** is provided which ensures access to the air cleaner **(2)** .



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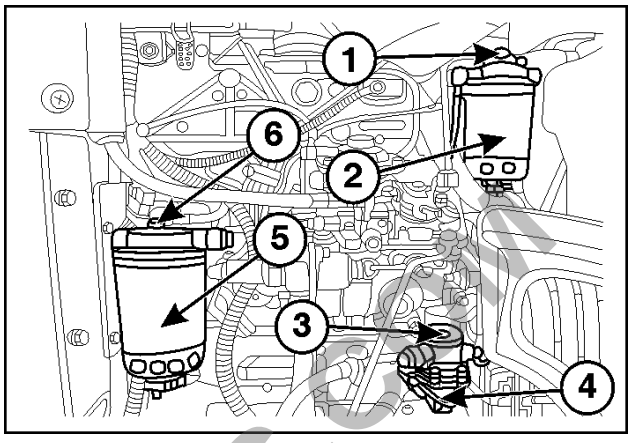
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Fuel injection system - Bleed

1. Procedure to remove air trap in fuel system :
   - Engine in stop condition.
   - Remove air bleed screw on primary fuel filter **(1)**, located on top.
   - Do manual priming using lever **(4)** on fuel feed pump **(3)** , until fuel starts flowing from air bleed screw.
   - Continue manual priming, till air bubbles are eliminated.
   - Tight air bleed screw on primary filter **(2)** .
   - Remove air bleed screw **(6)** , on secondary fuel filter **(5)** .
   - Do manual priming using lever **(4)** on fuel feed pump (**(3)** , until fuel starts flowing from air bleed screw.
   - Continue manual priming till air bubbles are eliminated.
   - Tight air bleed screw on secondary fuel filter.
   - Crank engine to start it.
   - If misfiring still exists, there is possibility of air being trapped in high pressure fuel circuit. In this case, stop engine, loosen the high pressure pipe nut on injector end and crank engine till fuel from each high pressure pipe is ejected with pressure. Re- tighten nuts and crank engine to start it.

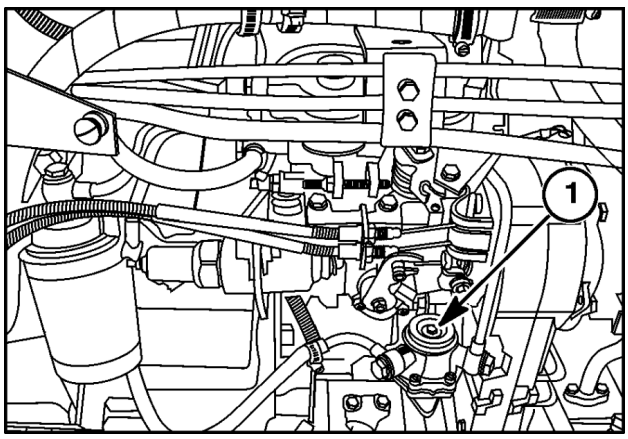


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NOTE: *Air blocked in fuel circuit may lead trouble in engine starting, misfiring issue.*

Fuel Feed Pump Filter

1. Main purpose of this strainer **(1)** is to protect the fuel feed pump. It has a comparatively coarse element. This element is contained in an easily removable bowl and should be cleaned.
2. When reassembled, make sure that a good joint is made between top of the bowl and filter body, as any leakage here may cause air locks in the fuel system.



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