MECALAC

AX Series
Articulated loader

2

Product	Articulated loader AX Series
FIN	as from W09P85296FBA08807

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Foreword

This operating manual contains all the information and instructions required for the correct execution of service tasks required for the wheel loader. Read this service manual before commencing the tasks and always keep it to hand for reference.

Validity

This Service manual applies togther with the operating manual of the Articulated loader AX Series.

Suggestions and comments

...regarding this documentation or the wheel loader can be sent to the above-mentioned address.

Most recent amendment

16.07.2015

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1 Notes for the Reader

In this chapter you will find information regarding the use of the Service manual:

1.1 Validity

This service manual contains information and codes of behaviour for service tasks on the Articulated loader AX Series. Read this service manual carefully before the first service. Always use the service manual when performing service tasks. Store the service manual at a central point and to hand for the responsible technical personnel. In accordance with current usage in the industry, the term wheel loader is used in this service manual.

This Service manual applies togther with the operating manual of the Articulated loader AX Series.

This service manual applies to technical personnel.

1.2 Illustrations

The illustrations in this service manual show the wheel loader in partially simplified form.

1.3 Accentuated text

In this service manual, important information is highlighted by symbols or special formatting. The following examples illustrate the most important types of highlighting.

1.3.1 Pictograms

Pictograms used

Pictogram	Meaning
	Further useful information.
	Conditions that must be fulfilled in order to perform an action
	Tools or material required in order to perform an action.

1.3.2   Safety Note

Safety instruction: Special note for an informatory section

Explanation of the note.

- The dot identifies measures that relate to the note.

1.3.3   Safety instructions

Safety Instruction

To ensure the safe implementation, ensure compliance with the following steps:

1. First step of a safety instruction

! Important note regarding a safety instruction

2. Second step of a safety instruction.
↳ The result of this step.

✓ The safety instruction is complete, the goal of the of a safety instruction has been achieved.

1.3.4 Warning notes

⚠️ **DANGER**

Warning of injuries leading to fatality
Failure to observe the safety instruction will result in serious damage to health, including death.
➜ The arrow identifies a precautionary measure you have to take to avoid the hazard.

⚠️ **WARNING**

Warning: Serious Injuries.
Failure to observe the warning can cause serious damage to health, or even death.
➜ The arrow identifies a precautionary measure you have to take to avoid the hazard.

⚠️ **CAUTION**

Warning: Injuries.
Failure to observe the warning can result in serious damage to health.
➜ The arrow identifies a precautionary measure you have to take to avoid the hazard.

NOTICE

Warning: Damage to property.
Ignoring the warning instructions can result in serious damage to the wheel loader or in its surroundings
➜ The arrow identifies a precautionary measure you have to take to avoid the hazard.

1.3.5 Guideline

Carry out the following steps: = Start of a set of instructions.

1. First step in a sequence of operations.

   Required settings . . . .   **Setting values**

2. Second step in a sequence of operations.
➙ The result of this step.

✓ The operation is complete, the goal has been achieved.

2   Description

In this chapter you will find additional information regarding the parts of the wheel loader that are not described in the operating manual.

- Parts of the wheel loader (Page 9)
- Diagnostic unit (Page 18)

2.1   Parts of the wheel loader
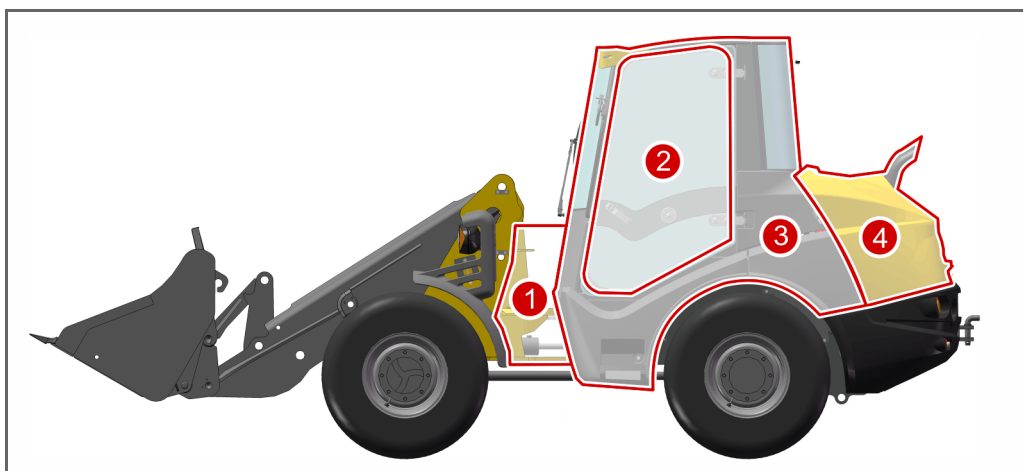
Overview - Parts of the wheel loader

Key

No.	Designation	Function
1	Front section	See Chapter: "Front section" (Page 10).
2	Cab - interior	See Chapter: "Cab - interior" (Page 11).
3	Cab - exterior	See Chapter: "Cab - exterior" (Page 14).
4	Engine compartment	See Chapter: "Engine compartment" (Page 17).

2.2 Front section

The bucket arm and the valves required for the control of the hydraulic cylinders are located on the front section. The valves are controlled hydraulically or electrically. Due to the mechanical design of the articulated dumper, the supply and control lines in the articulated joint are subjected to high mechanical loading. Care must be taken that the lines are always fixed to the front and rear sections of the vehicle. The lines must be able to move freely without touching other components between the attachment points.

2.2.1 Overview
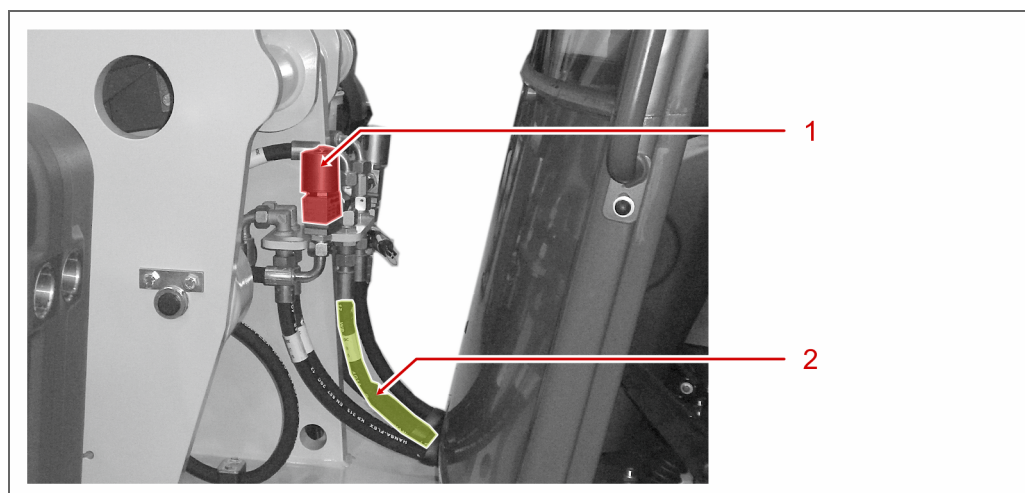
Overview - Front section | Hydraulic hoses and valves

Key

No.	Designation	Function
1	Valves	Are responsible for controlling the hydraulic cylinders.
2	Hydraulic hoses	See Chapter: "Hydraulic hoses" (Page 10).

2.2.2 Hydraulic hoses

Hydraulic lines must be checked within the framework of the service intervals. Detailed instructions in this regard are to be found in BGR 237.

A recommendation as to the replacement intervals has been compiled on the basis of DIN 20066.

Depending on the demands made on the hoses, the specified replacement intervals can be extended. The replacement interval remains the responsibility of the operator.

Description of the replacement intervals of the hydraulic hoses

Demands on the hydraulic hose	Recommended replacement interval
Normal use	6 years (operating life, including a maximum of 2 years' storage)

Description of the replacement intervals of the hydraulic hoses (Cont.)

Demands on the hydraulic hose	Recommended replacement interval
Enhanced demands: • increased operating periods; for example, multi-shift operation or brief cycle times of the machine or the pressure impulses. • severe external and internal (via the medium) effects, which markedly reduce the period of use of the hydraulic hose. • manually-operated hydraulic tools, for example portable shears in scrap yards.	2 years (operating life)

2.3 Cab - interior

2.3.1 Multi-function panel
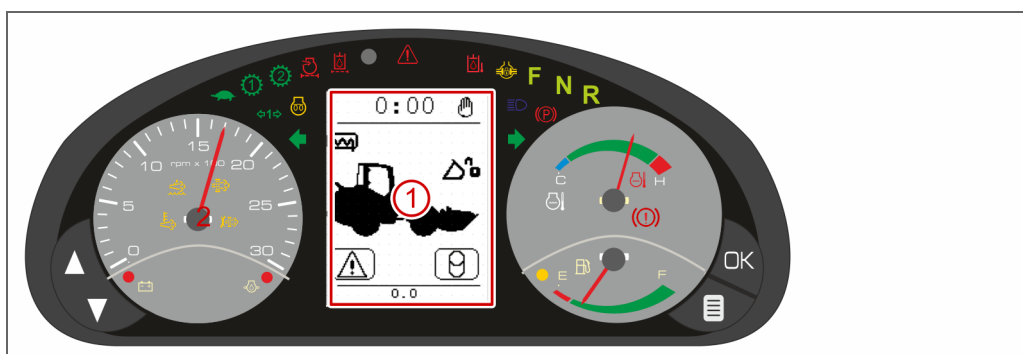
Multi-function panel

Key

No.	Designation	Function
1	Display	See Chapter: "Display" (Page 11).

2.3.2 Display

2.3.2.1 Overview

The function of the display has been enhanced in the new AX. In the new component, CANbus messages are displayed in addition to the familiar operating parameters. As a rule, these are error messages from the vehicle control system. The actual meaning of the error messages is described in Chapter "Error messages" (Page 19) . An error message appears in the display for only as long as the cause remains active.

2.3.2.2   Settings in the display

The following flowchart shows how the various display modes and settings are implemented directly in the component. The operation of the display is described in the operating manual.
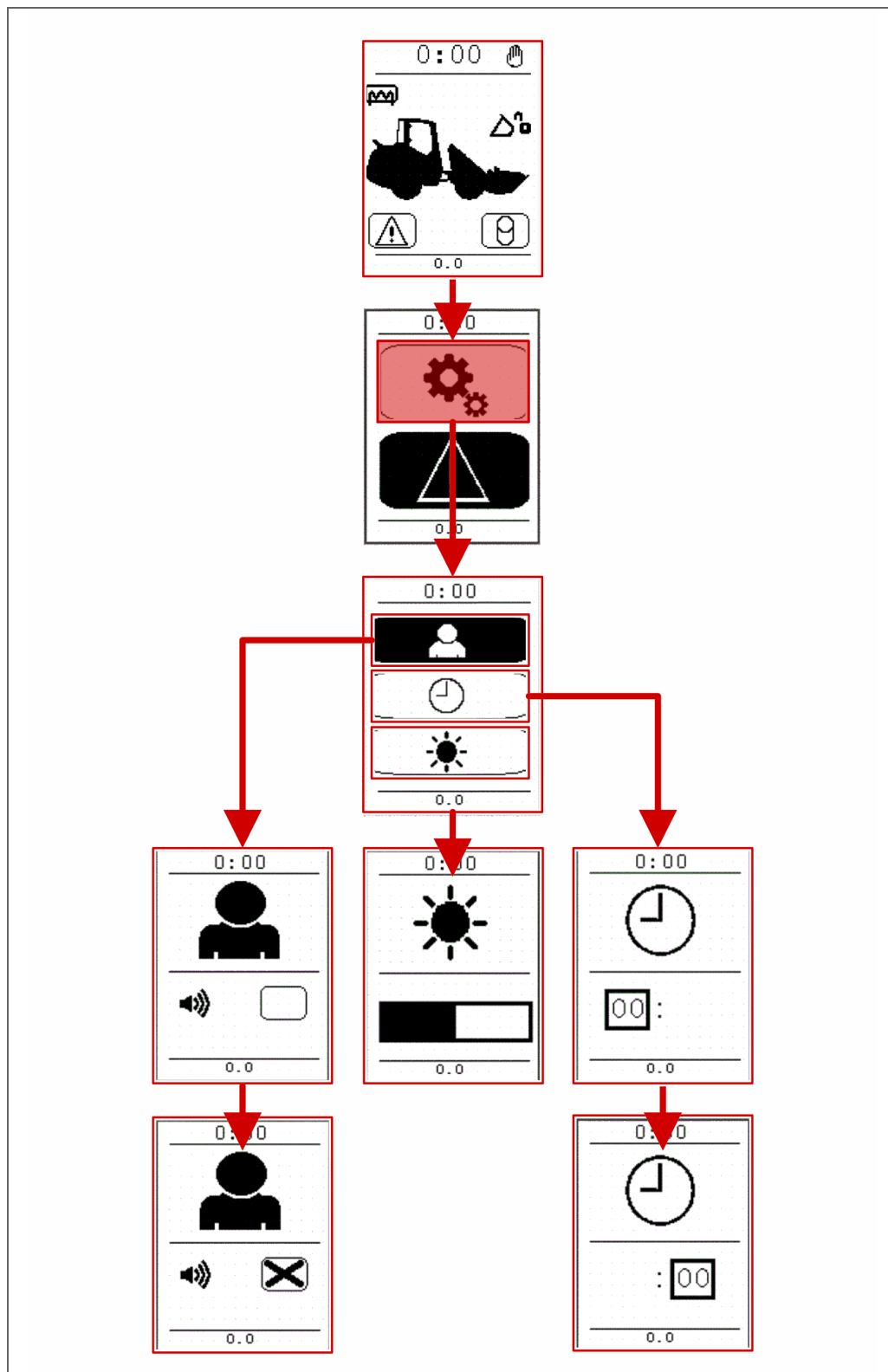
Display – settings
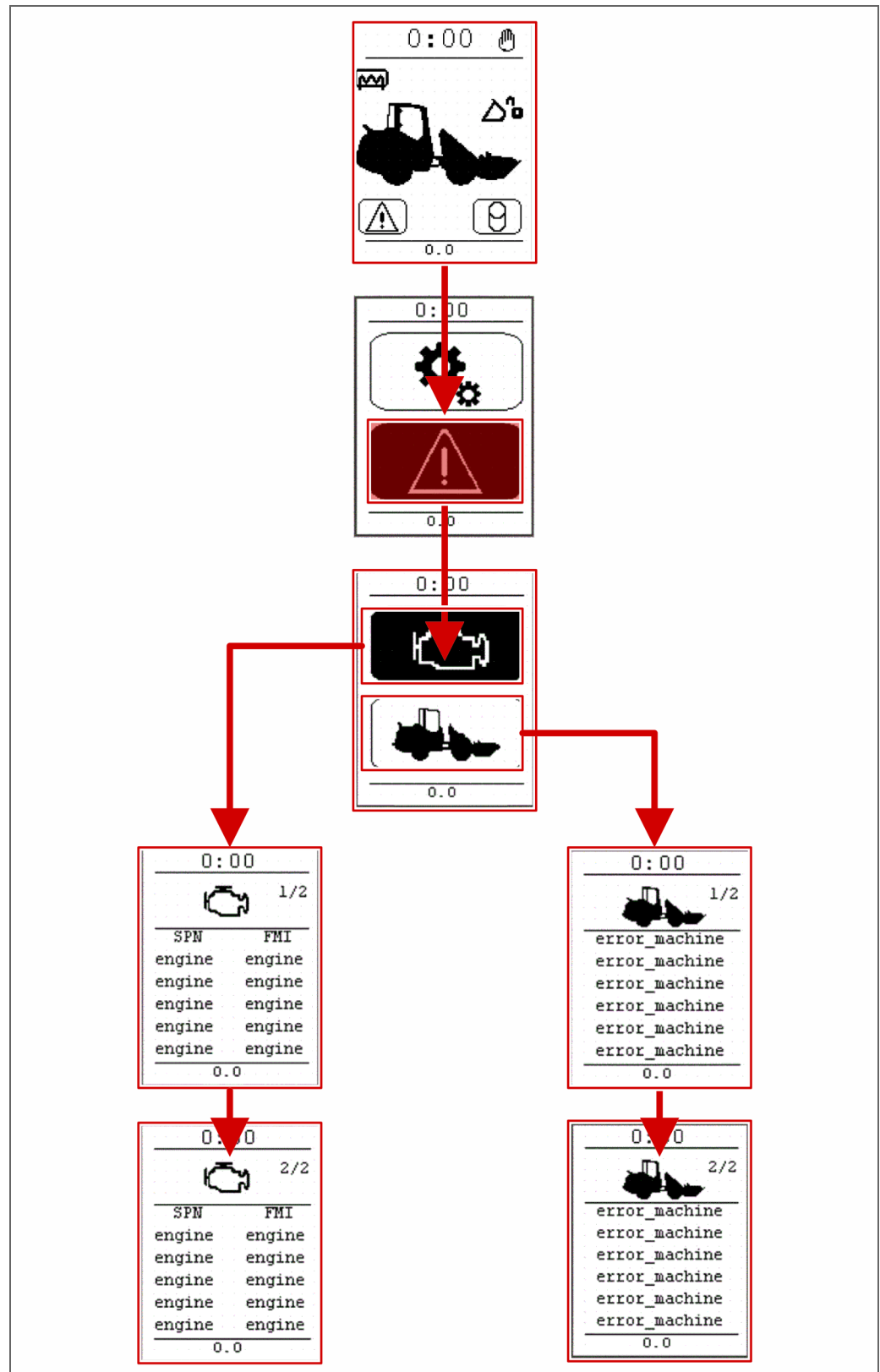
Display – engine and wheel loader messages

2.4 Cab - exterior

2.4.1 Overview
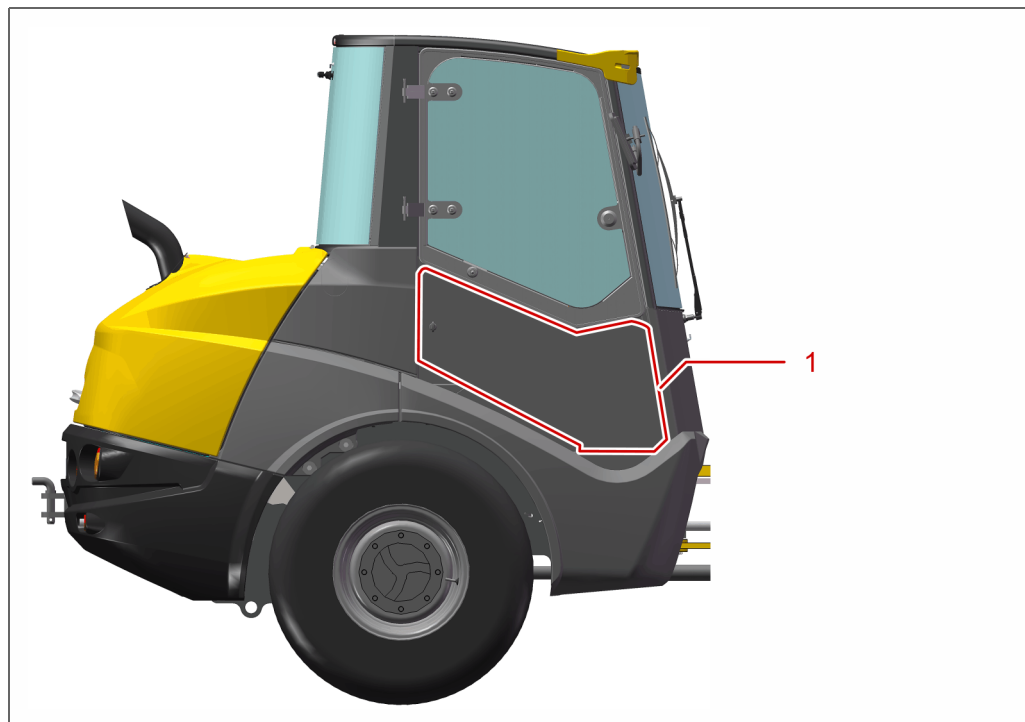
Cab - exterior | Side view – right-hand side

Key

No.	Designation	Function
1	Central electrical system	See Chapter: "Central electrical system" (Page 15).

2.4.2 Central electrical system

With the implementation of the required emission directives of the Tier standard, a new generation of vehicle control system has been introduced in the AX product segment. Electronic control of the power unit that is taken for granted in today's automotive industry in order to achieve the required emission values, has been enhanced in this stage of development to include electronic control of the hydraulic movement function. Furthermore, communication of the control signals has been optimised by the implementation of a CANbus system between the control units in the vehicle.

2.4.2.1 Overview
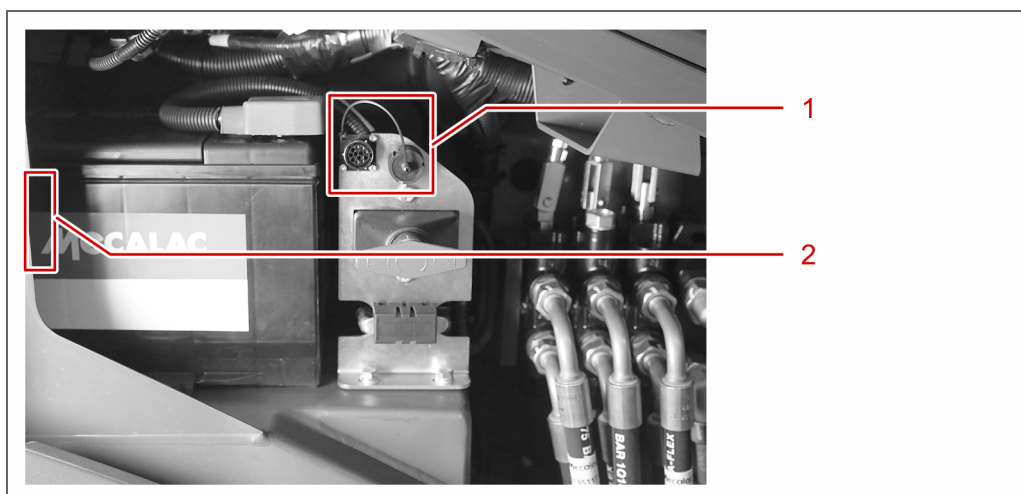
Overview - Central electrical system

Key

No.	Designation	Function
1	Diagnosis interface - vehicle control system	See section "Diagnosis interface - vehicle control system" (Page 15).
2	Location of the control systems	See section "Location of the control systems" (Page 16).

2.4.2.2 Diagnosis interface - vehicle control system
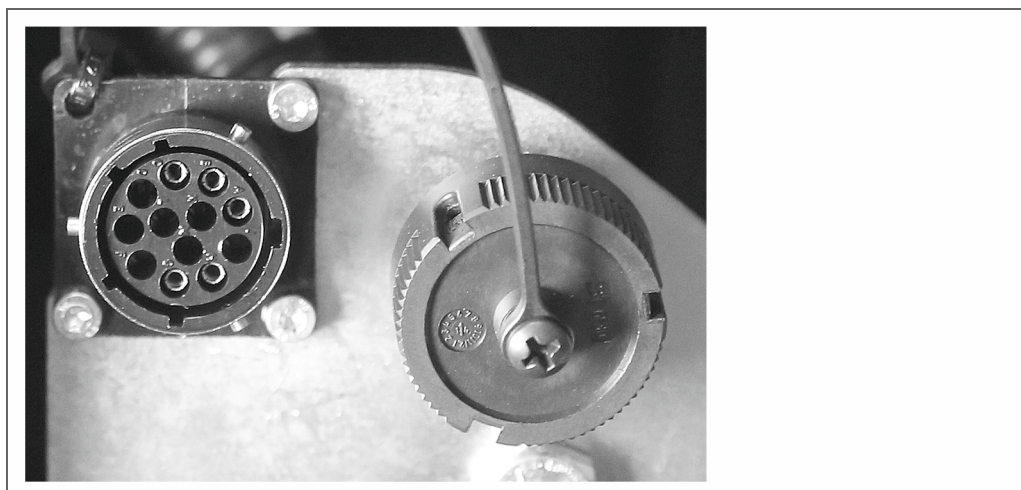
Diagnosis interface - vehicle control system

The diagnostic unit is connected to the vehicle control system diagnosis interface. Further information regarding the diagnostic unit can be found in Section: Diagnostic unit (Page 18).

2.4.2.3   Location of the control systems
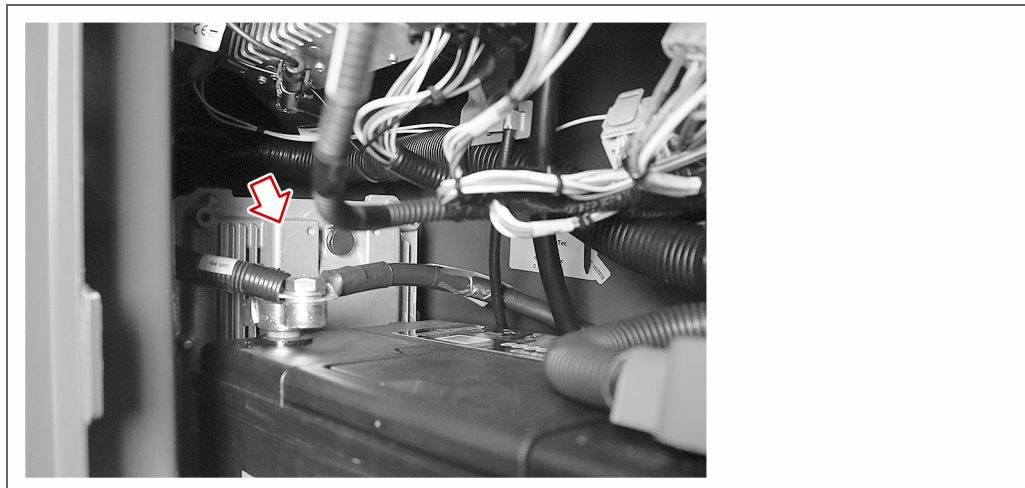
Location of the control systems

2.5 Engine compartment

2.5.1 Overview
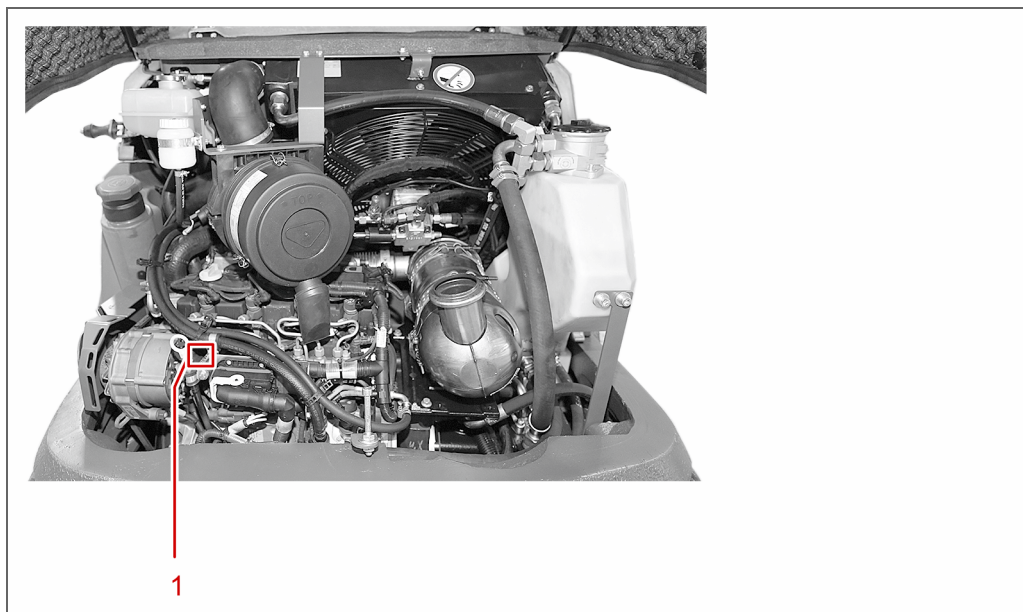
Overview - Engine compartment - frontal view

Key

No.	Designation	Function
1	Diagnosis interface - engine control system	See section Diagnosis interface - engine control system (Page 17).

2.5.2 Diagnosis interface - engine control system

Diagnosis interface - engine control system

The diagnostic unit is connected to the engine control system diagnosis interface. Further information regarding the diagnostic unit can be found in Section: Diagnostic unit (Page 18).

2.6   Diagnostic unit

2.6.1   Overview

The diagnostic unit serves as a reader to read and display engine and vehicle data from the CANbus system. In addition, stored error messages can be read and reset. The list of the error messages are to be found in Section Error messages (Page 19).

Active errors are displayed in the display. In addition, this error is stored in the main memory of the controller. The error memory is read and analysed within the framework of the recurring service.

Once the error has been processed, the error memory is deleted (reset).

The engine control diagnosis interface and the vehicle control diagnosis interface permit various diagnostic units to be used.

Diagnostic unit

2.6.2 Error messages

The controller messages that are shown in the display are listed in the following table. By using this information and a standard multimeter, the causes of the error can be identified and the function of the electrical components can be checked with on-board resources.

Errors from the engine control system are based on the mandatory SAE j1939 protocol. This is used internationally by various manufacturers.

The list of all messages from the "U05" engine controller are to be found in the annex of this service manual (See page 79: Annex).

Messages from the vehicle control system are generated as "M-messages (Mecalac)". As is the case with engine messages, they are shown in the display (only if active).

Error messages from the driving control system

Error	Meaning	Remedy
M001	Tortoise Valve Y01	Check Valve Y01, check Circuit 1009
M002	Differential lock valve error	Check Valve Y055, check Circuit 1003
M003	Oil temperature sensor error	Check Sensor P06, check Circuit 1015 and GND_S2_U01
M004	Quick-change device error	Check Valve Y16, check Circuit 1003
M005	Drive train valve error	Check Valves Y33, Y34, Y37, check Circuits1008, 1007, 1024
M006	Pipe burst detection valve error	Check Valves Y52a, Y52b, check Circuits1004,1005
M007	Inching pedal signal error	-
M008	Hand throttle signal error	Check Potentiometer JS05, check Circuit 1026
M009	Accelerator pedal signal error	Check Accelerator pedal P11, check Circuits 1016, 1017
M010	Engine communication error	Check Circuits CAN1-H, CAN1-L, check contact on Instrument U06 and Engine Controller U05
M011	Controller communication error	Check Circuits CAN1-H, CAN1-L, check contact on Instrument U06 and Engine Controller U05
M012	Front wiper control error	Check Relay K02, check Circuit 6003
M013	Option 3 control error	Check Relay K01, check Circuit 6015
M014	Option 4 control error	Check Relay K05, check Circuit 6016
M015	Control relay K14 (Kl.50) error	Check Relay K14, check Circuit 6009

3   Service tasks

In this chapter you will find information regarding service tasks for technical personnel:

- Checks (Page 21)
- Repair work (Page 31)
- Changing the consumables (Page 54)
- Lubrication (Page 73)

3.1   Checks

3.1.1   Checking the front axle oil level

Location of the bolts on the front axle

Key

No.	Designation
1	Filler plug
2	Oil level plug
3	Drain plug

Requirement

· The wheel loader is warmed up.

· The wheel loader is standing on a horizontal surface.

· The wheel loader is switched off.

· The parking brake is applied.

· The ignition key has been removed.

Tools required:

· Allen key SW 12

· Oil drip tray

· Protective gloves

· Suitable, fresh gearbox oil, if necessary

⚠️ WARNING

Health hazard posed by gearbox oil!

The gearbox oil is hazardous to health. Frequent skin contact can be carcinogenic.

➔ Avoid continuous skin contact with the gearbox oil.

➔ Always wear gloves when carrying out this job.

NOTICE

Environmental hazard posed by gearbox oil!

The used gearbox oil of the wheel loader is hazardous to the environment!

➔ Dispose of the used gearbox oil according to the local statutory provisions,

➔ Catch the draining gearbox oil in a suitable container.

➔ Prevent the gearbox oil from entering the soil.

Carry out the following steps:

1. Place an oil drip tray beneath the front axle.

↳ The oil drip tray prevents the gearbox oil from penetrating the subsoil.

2. Using an Allen key, unscrew the oil level plug.

3. Catch any escaping gearbox oil in the oil drip tray immediately.

4. Check the oil level of the front axle.

   ! The oil level must reach precisely below the lower edge of the inspection port .
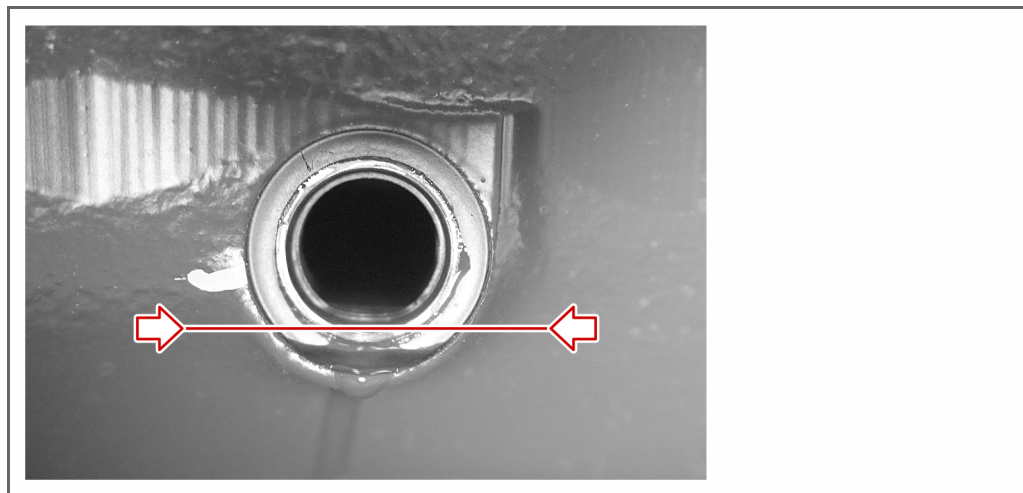
5. If required, top up with fresh gearbox oil up to the lower edge of the inspection port .

   ! In order to top up, the filler plug must be unscrewed.

6. Using an Allen key, secure the oil level plug.

7. Dispose of the gearbox oil that has been collected, according to the local statutory provisions,

✓ Done.

3.1.2 Checking the rear axle oil level

Requirement

· The wheel loader is warmed up.

· The wheel loader is standing on a horizontal surface.

· The wheel loader is switched off.

· The parking brake is applied.

· The ignition key has been removed.

Tools required:

· Allen key SW 12

· Oil drip tray

· Protective gloves

· Suitable, fresh gearbox oil, if necessary

⚠ WARNING

Health hazard posed by gearbox oil!
The gearbox oil is hazardous to health. Frequent skin contact can be carcinogenic.
➔ Avoid continuous skin contact with the gearbox oil.
➔ Always wear gloves when carrying out this job.

NOTICE

Environmental hazard posed by gearbox oil!
The used gearbox oil of the wheel loader is hazardous to the environment!
➔ Dispose of the used gearbox oil according to the local statutory provisions,
➔ Catch the draining gearbox oil in a suitable container.
➔ Prevent the gearbox oil from entering the soil.

Carry out the following steps:

1. Place an oil drip tray beneath the rear axle.
➥ The oil drip tray prevents the gearbox oil from penetrating the subsoil.

2. Using an Allen key, unscrew the oil level plug.

3. Catch any escaping gearbox oil in the oil drip tray immediately.

4. Check the oil level of the rear axle.

> **!** The oil level must reach precisely below the lower edge of the inspection port .
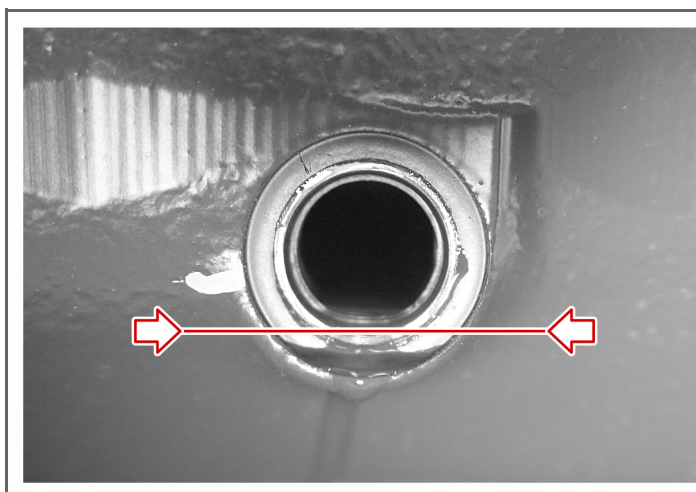
5. If required, top up with fresh gearbox oil up to the lower edge of the inspection port
.

6. Using an Allen key, secure the oil level plug.

7. Dispose of the gearbox oil that has been collected, according to the local statutory provisions,

✓ Done.

3.1.3 Checking the planetary gear oil level

Requirement

· The wheel loader is warmed up.

· The wheel loader is standing on a horizontal surface.

· The wheel loader is switched off.

· The parking brake is applied.

· The ignition key has been removed.

Tools required:

· Allen key SW 12

· Oil drip tray

· Protective gloves

· Suitable, fresh gearbox oil, if necessary

⚠️ **WARNING**

Health hazard posed by gearbox oil!
The gearbox oil is hazardous to health. Frequent skin contact can be carcinogenic.
➔ Avoid continuous skin contact with the gearbox oil.
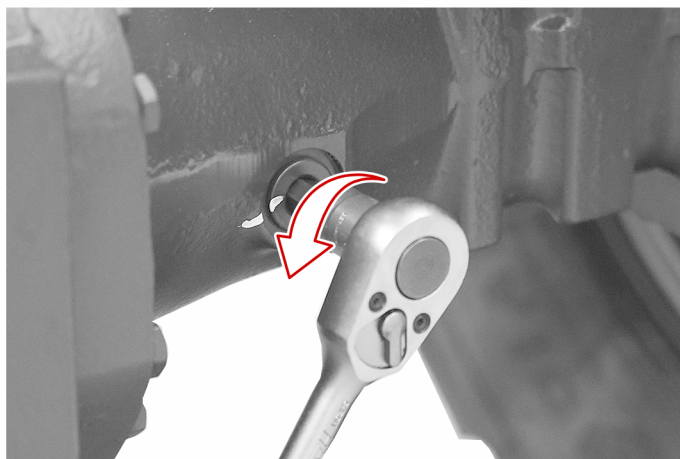➔ Always wear gloves when carrying out this job.

NOTICE

Environmental hazard posed by gearbox oil!
The used gearbox oil of the wheel loader is hazardous to the environment!
➔ Dispose of the used gearbox oil according to the local statutory provisions,
➔ Catch the draining gearbox oil in a suitable container.
➔ Prevent the gearbox oil from entering the soil.


Carry out the following steps:

1. Move the wheel loader so that the `Oil Level` fill level line of the planetary gear is horizontal.

2. Place an oil drip tray in the tyre rim.

➥ The oil drip tray prevents the gearbox oil from penetrating the subsoil.

3. Using an Allen key, unscrew the oil level plug.
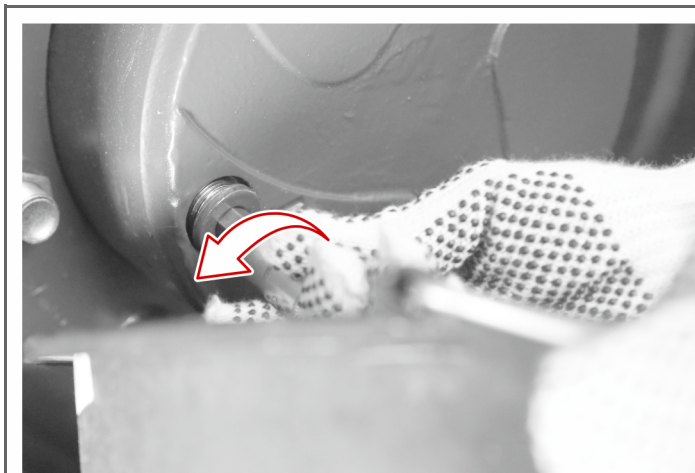
4. Catch any escaping gearbox oil in the oil drip tray immediately.

5. Check the oil level of the planetary gear.

! The oil level must reach precisely below the lower edge of the inspection port .
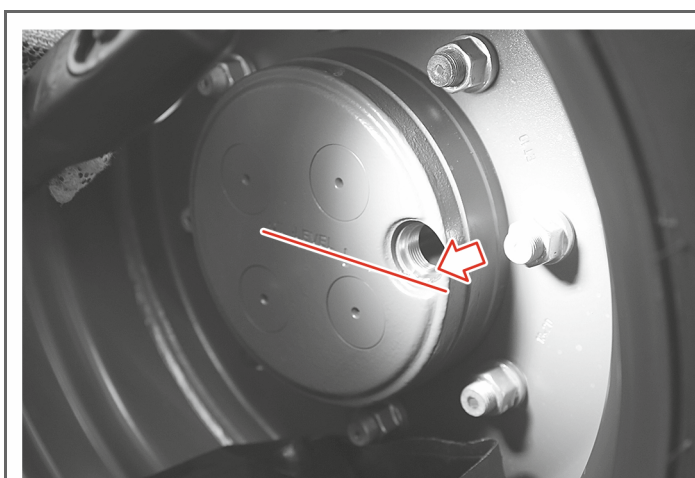
6. If required, top up with fresh gearbox oil up to the lower edge of the inspection port .

7. Using an Allen key, secure the oil level plug.

8. Dispose of the gearbox oil that has been collected, according to the local statutory provisions,

✔ Done.

3.1.4 Checking the reduction gear oil level

Location of the bolts on the of the reduction gear

Key

No.	Designation
1	Oil level plug
2	Drain plug

Requirement

· The wheel loader is warmed up.

· The wheel loader is standing on a horizontal surface.

· The wheel loader is switched off.

· The parking brake is applied.

· The ignition key has been removed.

Tools required:

· Allen key SW 12

· Oil drip tray

· Protective gloves

· Suitable, fresh gearbox oil, if necessary

⚠️ **WARNING**

Health hazard posed by gearbox oil!
The gearbox oil is hazardous to health. Frequent skin contact can be carcinogenic.
➔ Avoid continuous skin contact with the gearbox oil.
➔ Always wear gloves when carrying out this job.

NOTICE

Environmental hazard posed by gearbox oil!
The used gearbox oil of the wheel loader is hazardous to the environment!
➔ Dispose of the used gearbox oil according to the local statutory provisions,
➔ Catch the draining gearbox oil in a suitable container.
➔ Prevent the gearbox oil from entering the soil.

Carry out the following steps:

1. Place an oil drip tray beneath the reduction gear.
↳ The oil drip tray prevents the gearbox oil from penetrating the subsoil.

2. Using an Allen key, unscrew the oil level plug.

3. Catch any escaping gearbox oil in the oil drip tray immediately.

4. Check the oil level of the reduction gear.

  ! The oil level must reach precisely below the lower edge of the inspection port .

5. If required, top up with fresh gearbox oil up to the lower edge of the inspection port .

6. Using an Allen key, secure the oil level plug.

7. Dispose of the gearbox oil that has been collected, according to the local statutory provisions,

✓ Done.

3.1.5 Checking the electrical functions and connections

Carry out the following steps:

1. Test all electrical functions

**2.** Check that the electrical plugs and sockets are securely seated.
➥ Fuses
➥ Relays

3. Perform a visual inspection of the cable harnesses.

  ! Check that they are seated securely.

4. Measure the battery voltage.

5. Measure and check the functioning of the alternator.

6. Check that the main battery switch functions correctly.

7. Check that the body is electrically isolated.

✓ Done.

3.1.6 Checking the hydraulic hoses

Carry out the following steps:

1. Check all hydraulic hoses for leaks and mechanical damage.

  ! Detailed instructions are to be found in BGR 237.

2. Exchange damaged hydraulic hoses immediately.

✓ Done.

Info

The recommended replacement intervals for the hydraulic hoses to be found in Chapter: "Description" > "Hydraulic hoses" (Page 10).

3.2 Repair work

3.2.1 Changing a wheel

Requirement

- The wheel loader is standing on a horizontal surface.
- The wheel loader is switched off.
- The parking brake is applied.
- The direction of travel toggle switch must be in the neutral position.
- The ignition key has been removed.

Tools required:

- Two persons
- One jack suitable for the mass of the wheel loader
- A suitable base for the jack
- Safety block
- Protective gloves
- Wheel-brace
- A torque wrench
- A new wheel

Dismount the wheel

> ⚠️ **CAUTION**
>
> **Hazard of crush injuries to limbs!**
> The tyre of the wheel loader is large and heavy. You can be crushed if it tips over!
> ➔ Always wear protective gloves!
> ➔ Always wear safety shoes!
> ➔ Always work carefully!
> ➔ Always carry out a wheel change with two persons!

Carry out the following steps:

1. Using the wheel-brace loosen all eight wheel nuts by approximately half a turn.
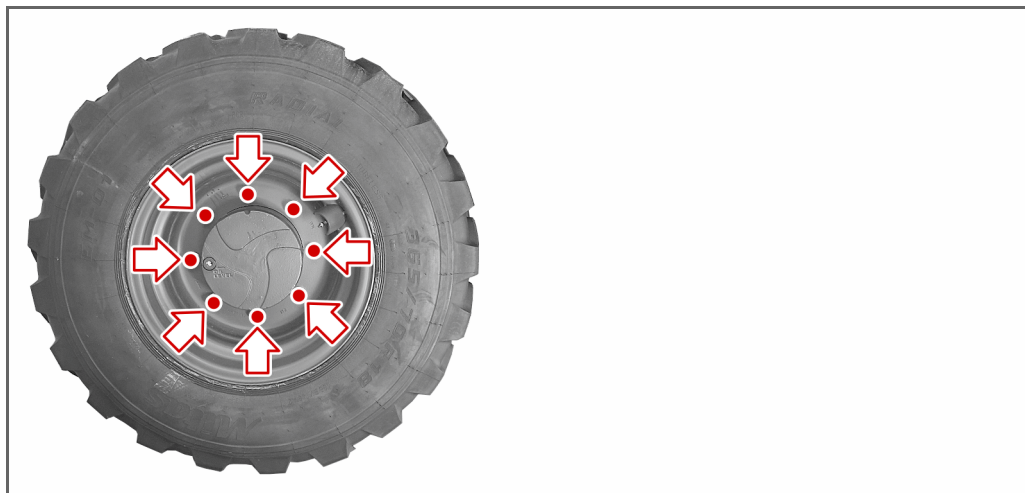
2. Position a suitable base beneath the jack below the jacking points of the axle of the wheel to be changed.
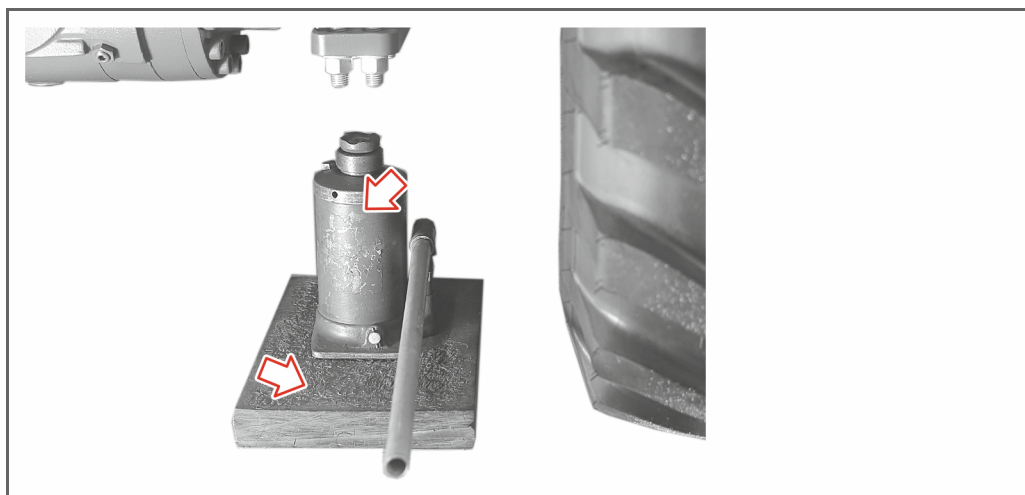
3. Place the safety blocks centrally on the upper end of the jack.

4. Using the jack lift up the wheel loader.

> **!** The wheel must be lifted approximately one centimetre off the ground.
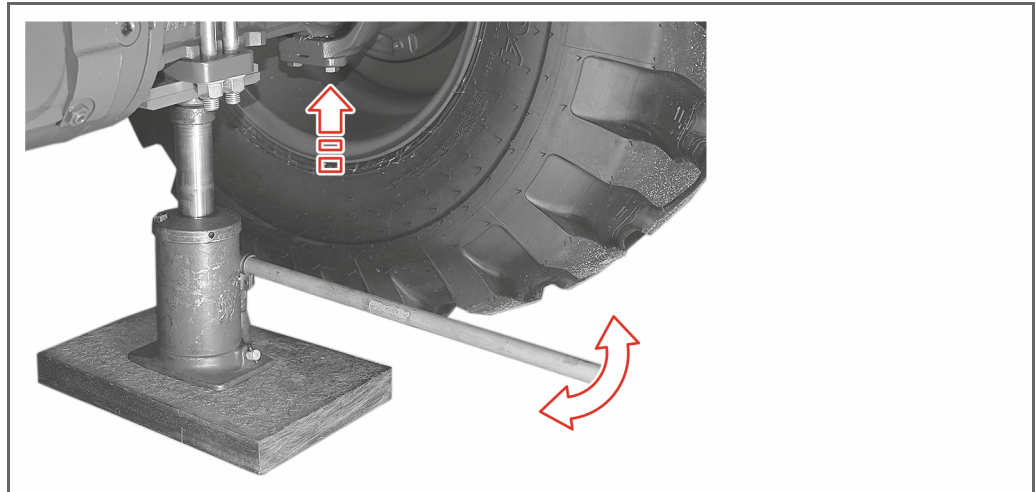
➥ The wheel has been lifted.

5. Using the wheel-brace remove all eight wheel nuts.

6. With two persons, carefully lift the wheel off the axle .

The wheel has been dismounted.

Mounting the wheel.

Carry out the following steps:

1. With two persons, carefully lift the new wheel onto the axle .

2. Screw in the eight wheel nuts on the wheel loader.

> **!** Only fasten the wheel nuts finger-tight.

3. Loosen the jack.

4. Remove the jack, the base and the safety blocks.

5. Tighten all eight wheel nuts to 500 Nm .

! For fastening, use a suitable torque wrench.

The wheel has been mounted.

✓ Done.

Info

After approximately ten hours of operation, re-tighten the wheel nuts of the wheel that has been changed.

3.2.2 Changing the V-belt
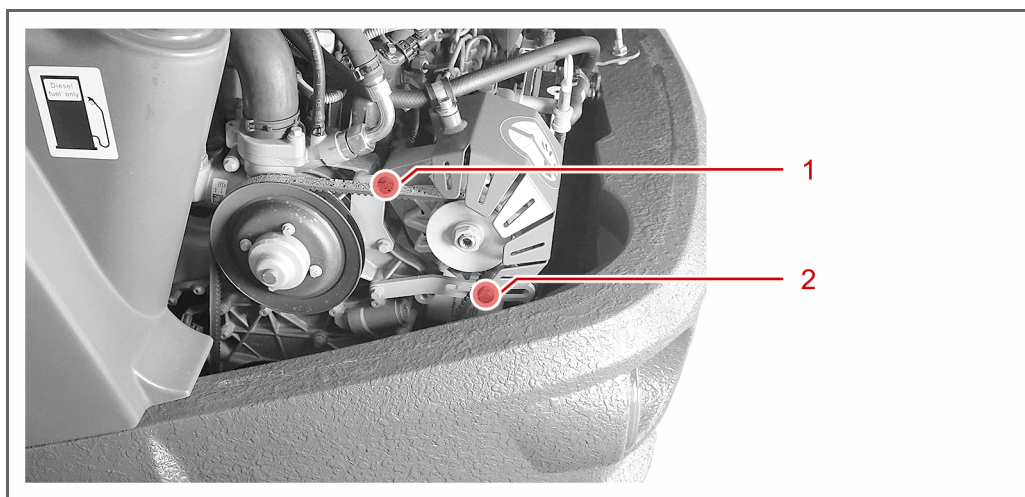
Location of fastening nuts

Key

No.	Designation
1	upper fastening nut
2	lower fastening nut

Requirement

- The wheel loader is standing on a horizontal surface.
- The wheel loader is switched off.
- The diesel engine must be cold.
- The parking brake is applied.
- The ignition key has been removed.

Tools required:

- Protective gloves
- A new V-belt
- Ratchet with extension and SW 13 socket
- Allen key SW 13

⚠ CAUTION

Hazard of injuries to limbs by crushing and cutting!
The engine bay of the wheel loader is very cramped. You can be cut and crushed when performing maintenance tasks!
➔ Always wear protective gloves!
➔ Always work carefully!

Carry out the following steps:

1. Using the ratchet, loosen the upper fastening nut.
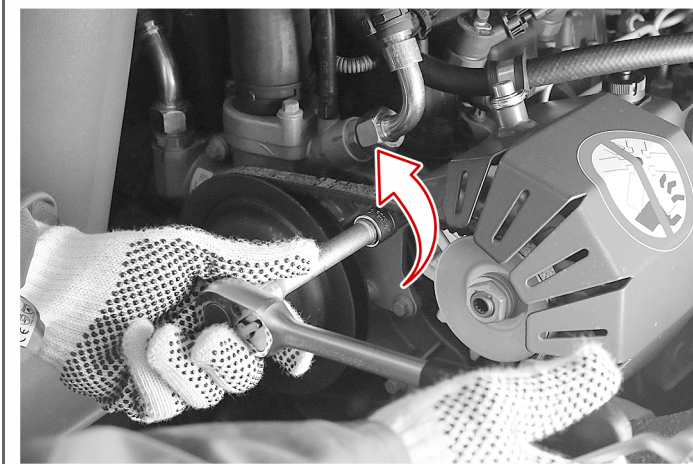
2. Using the wrench, loosen the upper fastening nut.
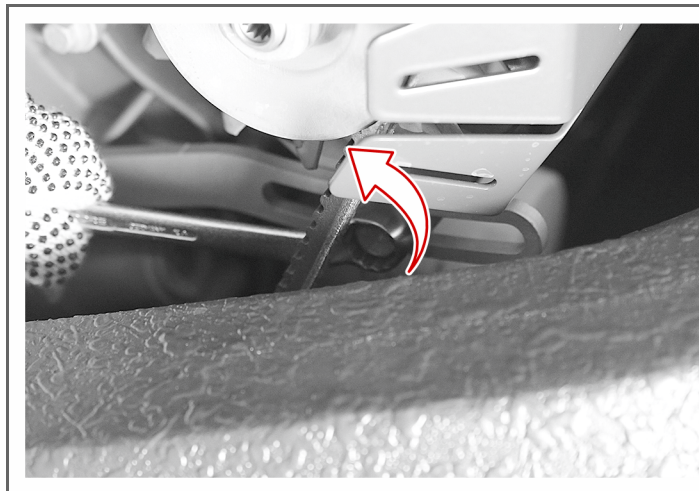
3. Turn the alternator inwards in the engine bay.
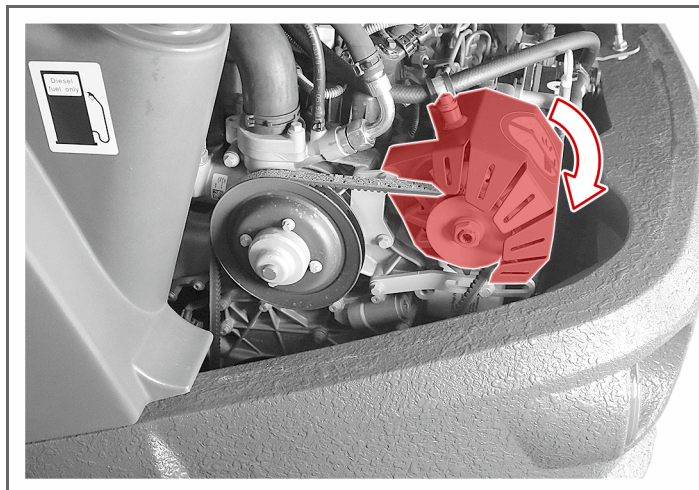
➥ The V-belt is loosened.

4. Remove the V-belt.
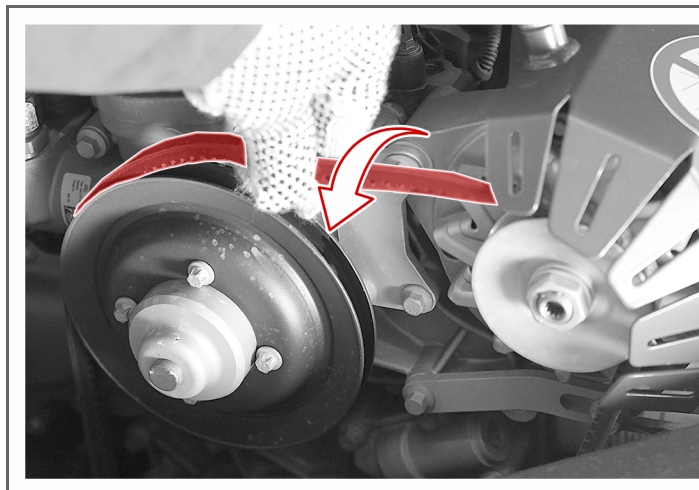
5. Install the new V-belt.

6. Pull the alternator upwards.

➥ The V-belt is tensioned.

7. Refasten the upper and lower fastening nuts.
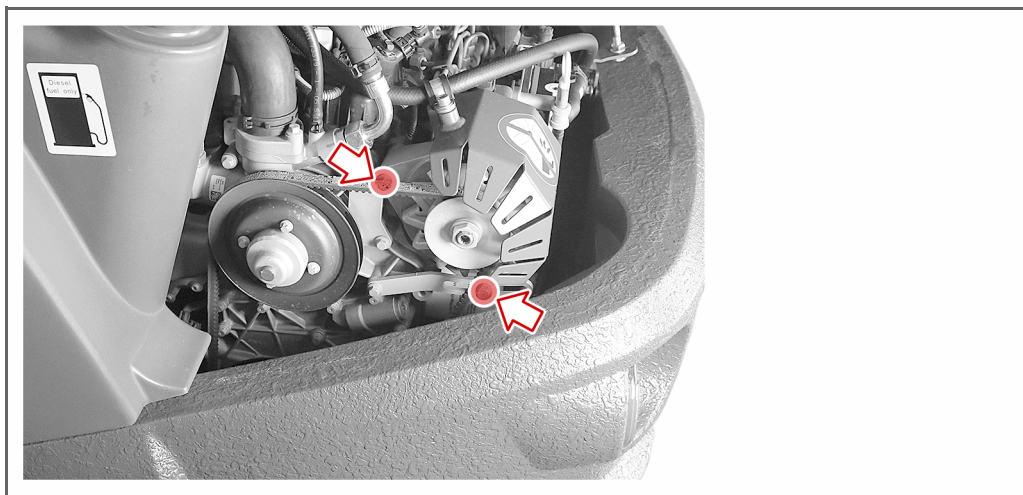
✔ Done.

3.2.3   Changing the fuel pre-filter

Requirement

- · The wheel loader is standing on a horizontal surface.
- · The wheel loader is switched off.
- · The diesel engine must be cold.
- · The parking brake is applied.
- · The engine hood of the wheel loader is open.
- · The ignition key has been removed.

Tools required:

- · Strap wrench
- · Protective gloves
- · A new fuel pre-filter

Changing the fuel pre-filter

⚠ WARNING

Fire hazard due to ignition of the diesel fuel!
Burns may result. In addition, the wheel loader will be damaged by the fire!
➔ Smoking is prohibited when working on the fuel filter of the wheel loader!
➔ Immediately clean up any diesel fuel that has spilled.

⚠ WARNING

Health hazard posed by diesel fuel!
The diesel fuel is hazardous to health. Frequent skin contact can be carcinogenic.
➔ Avoid continuous skin contact with the diesel fuel.
➔ Always wear gloves when carrying out this job.

NOTICE

Environmental hazard posed by diesel fuel!
The diesel fuel used by the wheel loader is hazardous to the environment!
➔ Dispose of the diesel fuel according to the local statutory provisions,
➔ Catch the draining diesel fuel in a suitable container.
➔ Prevent the diesel fuel from entering the soil.

Carry out the following steps:

1. Carefully detach the connection cable for the water level sensor.
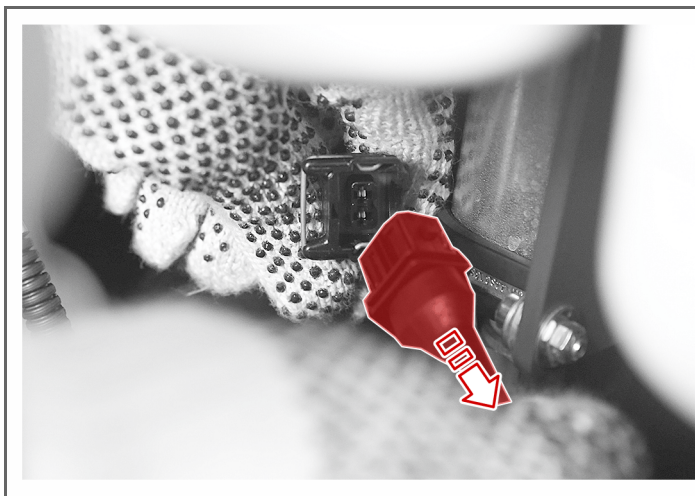
2. Place the strap of the strap wrench around the fuel pre-filter.

3. Loosen the fuel pre-filter with the aid of the strap wrench.

4. Carefully pull the fuel pre-filter from the mounting.

5. Unscrew the water separator valve from the fuel pre-filter .
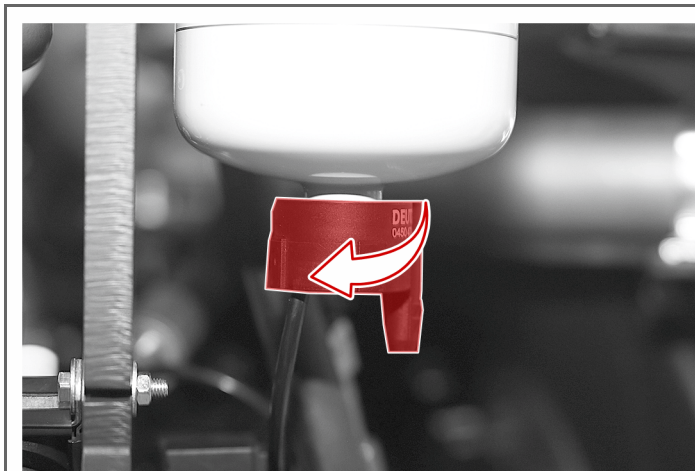
6. Fasten the water separator valve onto the new fuel pre-filter .

7. Screw the new fuel pre-filter into the mounting.

8. Install the connection cable for the water level sensor.

The fuel pre-filter has been changed.

Bleeding the fuel system

Carry out the following steps:

1. Insert the ignition key of the wheel loader into the ignition lock.

2. Turn the ignition key clockwise to position **I**.
�') The ignition system of the wheel loader is switched on.
➱ The fuel supply pump is switched on.

3. Wait 20 seconds.

4. Turn the ignition key clockwise to position **0**.
➱ The ignition system of the wheel loader is switched off.

5. Repeat steps ‹**1 TO 4**› twice.
➱ The fuel system is bled piece by piece.
➱ The fuel pressure required for operation is built up.

The fuel system has been bled.

✓ Done.

3.2.4   Changing the fuel filter

Requirement

·   The wheel loader is standing on a horizontal surface.

·   The wheel loader is switched off.

·   The diesel engine must be cold.

·   The parking brake is applied.

·   The engine hood of the wheel loader is open.

·   The ignition key has been removed.

Tools required:

·   Strap wrench

·   Protective gloves

·   A new fuel filter

⚠ WARNING

Fire hazard due to ignition of the diesel fuel!

Burns may result. In addition, the wheel loader will be damaged by the fire!

➔   Smoking is prohibited when working on the fuel filter of the wheel loader!

➔   Immediately clean up any diesel fuel that has spilled.

⚠ WARNING

Health hazard posed by diesel fuel!

The diesel fuel is hazardous to health. Frequent skin contact can be carcinogenic.

➔   Avoid continuous skin contact with the diesel fuel.

➔   Always wear gloves when carrying out this job.

NOTICE

Environmental hazard posed by diesel fuel!

The diesel fuel used by the wheel loader is hazardous to the environment!

➔   Dispose of the diesel fuel according to the local statutory provisions,

➔   Catch the draining diesel fuel in a suitable container.

➔   Prevent the diesel fuel from entering the soil.

Carry out the following steps:

1.   Place the strap of the strap wrench around the fuel pre-filter.

2.   Loosen the fuel pre-filter with the aid of the strap wrench.

3. Carefully pull the fuel pre-filter from the mounting.

4. Screw the new fuel pre-filter into the mounting.

✓ Done.

3.2.5 Changing the fresh air filter

Requirement

- The wheel loader is standing on a horizontal surface.
- The wheel loader is switched off.
- The parking brake is applied.
- The ignition key has been removed.

Tools required:

- Protective gloves
- A new fresh air filter
- Wrench

Carry out the following steps:

1. Using the wrench, remove the four screw fasteners of the driver's seat baseplate.
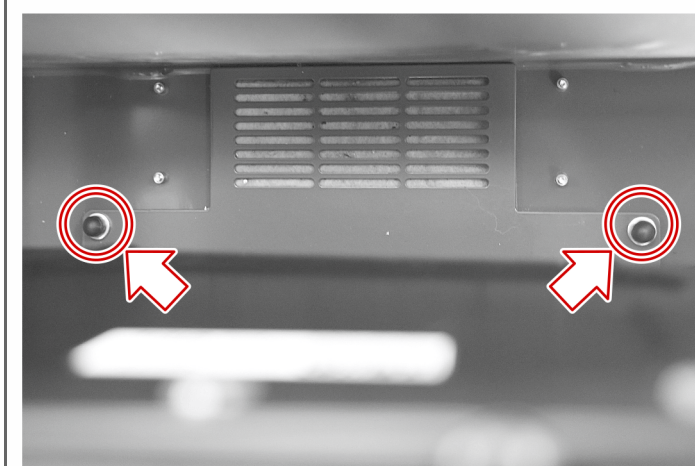
2. Carefully lift the driver's seat together with the base plate out of the cab.

3. Carefully withdraw the old fresh air filter.

4. Install the new fresh air filter.V-belt.

5. Carefully lift the driver's seat together with the base plate into the cab.

6. Using the wrench, fasten the four screw fasteners of the driver's seat baseplate.

✓ Done.

3.2.6   Changing the hydraulic fluid filter

Requirement
· The wheel loader is standing on a horizontal surface.
· The wheel loader is switched off.
· The diesel engine must be cold.
· The parking brake is applied.
· The engine hood of the wheel loader is open.
· The ignition key has been removed.

Tools required:
· Two persons
· Protective gloves
· Wrench SW 27
· Oil-absorbent mat
· Oil drip tray
· A new hydraulic fluid filter

Remove the hydraulic fluid filter

⚠ **WARNING**

Health hazard posed by hydraulic fluid!
The hydraulic fluid is hazardous to health. Frequent skin contact can be carcinogenic.
➔ Avoid continuous skin contact with the hydraulic fluid.
➔ Always wear gloves when carrying out this job.

NOTICE

**Environmental hazard posed by hydraulic fluid!**
The used hydraulic fluid of the wheel loader is hazardous to the environment!
➔ Dispose of the used hydraulic fluid according to the local statutory provisions,
➔ Catch the draining hydraulic fluid in a suitable container.
➔ Prevent the hydraulic fluid from entering the soil.

Carry out the following steps:

1. Place the oil-absorbent mats around the hydraulic fluid reservoir.
➥ The oil-absorbent mat protect the interior of the engine bay from contamination.

2. Using the wrench loosen the lid of the hydraulic fluid reservoir.
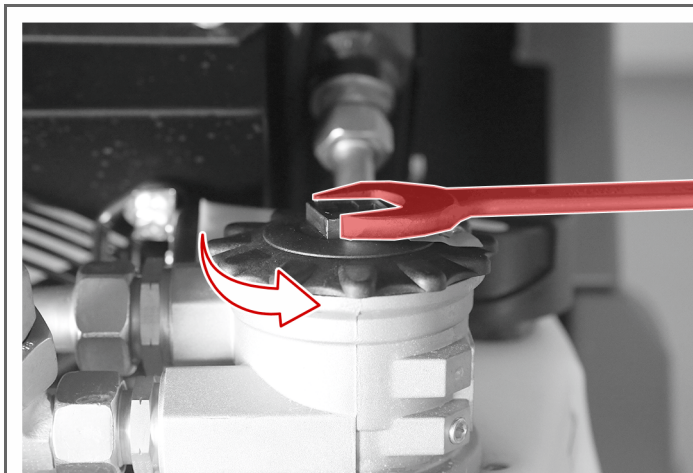
3. Unscrew the lid by hand.

4. Withdraw the hydraulic fluid filter by the handle .

5. Allow the surplus hydraulic fluid to run into the hydraulic fluid reservoir .
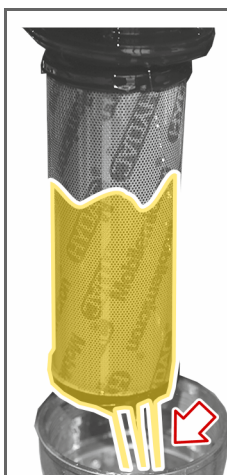
6. Place the hydraulic fluid filter in the oil drip tray.

! The oil drip tray must be held by a second person.

The hydraulic fluid filter is dismounted.

Install the
hydraulic fluid filter
▽

Carry out the following steps:

1. Insert the new hydraulic fluid filter in the hydraulic fluid reservoir .

2. Screw the lid back onto the hydraulic fluid reservoir by hand.

3. Using the wrench, tighten the lid of the hydraulic fluid reservoir.

4. Remove the oil-absorbent mats.

5. Dispose of the gearbox oil that has been collected, according to the local statutory provisions,

The hydraulic fluid filter is installed.

✓ Done.

3.2.7   Changing the engine oil filter

Requirement

- The wheel loader is standing on a horizontal surface.
- The wheel loader is switched off.
- The diesel engine must be cold.
- The parking brake is applied.
- The engine hood of the wheel loader is open.
- The ignition key has been removed.

Tools required:

- Strap wrench
- Protective gloves
- A new engine oil filter
- Oil drip tray

Dismounting the engine oil filter

⚠️ **WARNING**

Health hazard posed by engine oil!
The engine oil is hazardous to health. Frequent skin contact can be carcinogenic.
➔ Avoid continuous skin contact with the engine oil.
➔ Always wear gloves when carrying out this job.

NOTICE

Environmental hazard posed by engine oil!
The used engine oil of the wheel loader is hazardous to the environment!
➔ Dispose of the used engine oil according to the local statutory provisions,
➔ Catch the draining engine oil oil in a suitable container.
➔ Prevent the engine oil from entering the soil.

Carry out the following steps:

1. Place the oil drip tray beneath the engine oil filter.
➥ The oil drip tray prevents the engine oil from penetrating the subsoil or entering the interior of the engine bay.

2. Place the strap of the strap wrench around the engine oil filter.

3. Loosen the engine oil filter with the aid of the strap wrench.
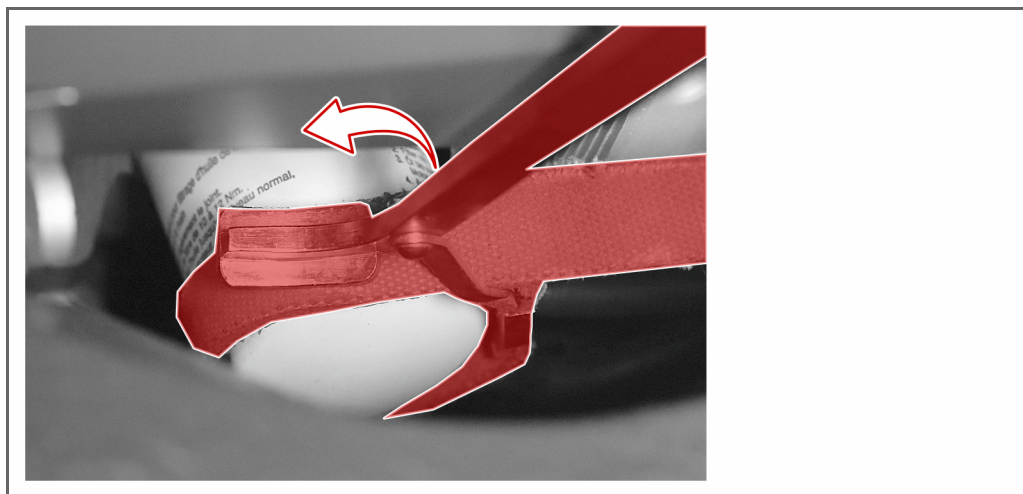
4. Carefully pull the engine oil filter from the mounting .

The engine oil filter ihas been removed.

Install the new engine oil filter

▽

Carry out the following steps:

1. Coat the surfaces of the new engine oil filter with fresh lubricating oil.

2. Screw the new engine oil filter into the mounting.

3. Fasten the engine oil filter by hand.

4. Check the oil level of the engine.

5. Dispose of the engine oil that has been collected according to the local statutory provisions.

The new engine oil filter has been installed.

✓ Done.

3.2.8   Changing the air filter

Requirement

- The wheel loader is standing on a horizontal surface.
- The wheel loader is switched off.
- The diesel engine must be cold.
- The engine hood of the wheel loader is open.
- The ignition key has been removed.

Tools required:

- A new air filter cartridge
- A new safety cartridge

Dismounting the air filter cartridge

Carry out the following steps:

1. Open the three locking mechanisms of the lid.
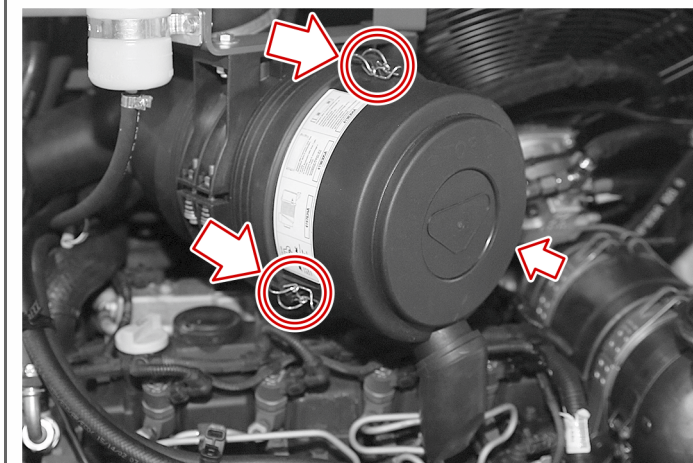
2. Remove the lid.

3. Remove the filter cartridge.

! Loosen the filter cartridge with gentle rotating movements left and right.
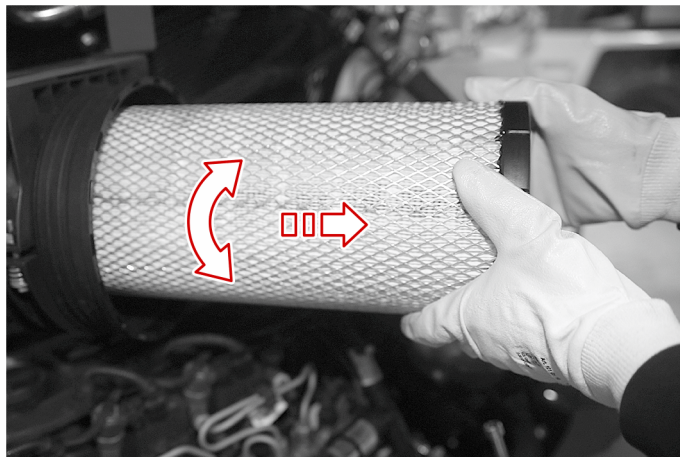
The air filter cartridge has been dismounted.

Exchanging the safety cartridge.
▽

Carry out the following steps:

1. Remove the safety cartridge.

! Loosen the safety cartridge with gentle rotating movements left and right.
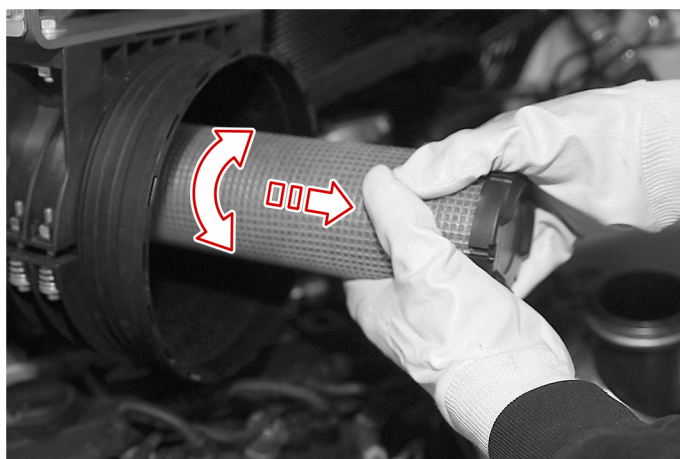
2. Check the interior of the filter housing for dust and dirt.

! If necessary, carefully clean the interior of the filter housing with a cloth.

3. Slide the new safety cartridge carefully into the filter housing.
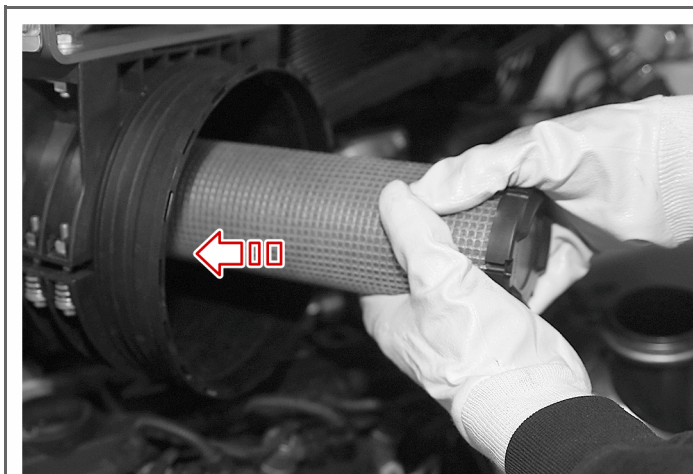
The safety cartridge has been exchanged.

Re-install the air
filter cartridge

Carry out the following steps:

1. Slide the inspected filter cartridge back into the holder.
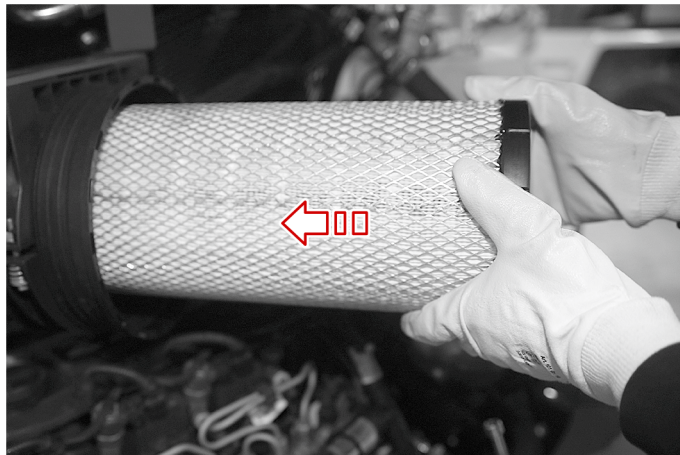
2. Re-install the lid.

! When remounting the lid, take care that the TOP marking faces `upwards` .

3. Secure the three locking mechanisms of the lid.
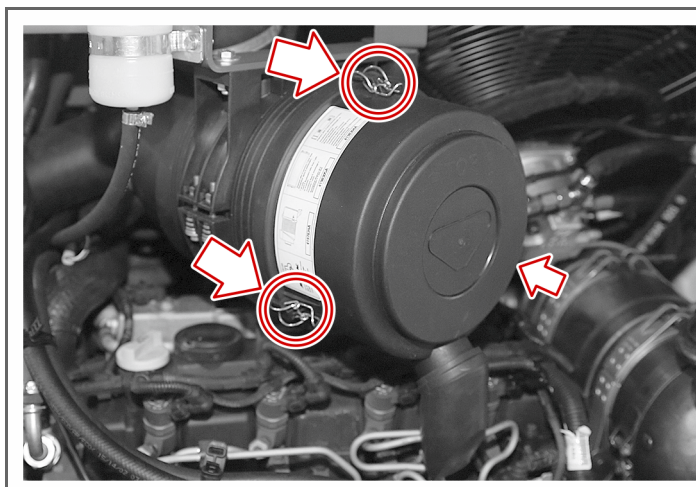
The air filter cartridge has been installed.

✓ Done.

3.3 Changing the consumables

3.3.1 Changing the engine oil

Requirement

- The wheel loader is standing on a horizontal surface.
- The wheel loader is switched off.
- The ignition key has been removed.
- The engine must be warm.

Tools required:

- A sufficiently large oil collection container
- A suitable oil drainage hose
- Wrench SW 17
- Protective gloves

Draining the engine oil

> ⚠️ **WARNING**
>
> **Health hazard posed by engine oil!**
> The engine oil is hazardous to health. Frequent skin contact can be carcinogenic.
> ➔ Avoid continuous skin contact with the engine oil.
> ➔ Always wear gloves when carrying out this job.

> **NOTICE**
>
> **Environmental hazard posed by engine oil!**
> The used engine oil of the wheel loader is hazardous to the environment!
> ➔ Dispose of the used engine oil according to the local statutory provisions,
> ➔ Catch the draining engine oil oil in a suitable container.
> ➔ Prevent the engine oil from entering the soil.

Carry out the following steps:

1. Slacken the three lugs of the sump guard.
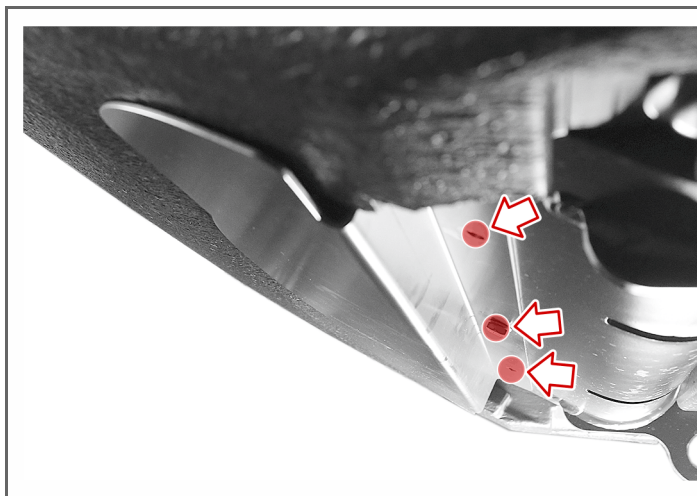
2. Remove the sump guard.
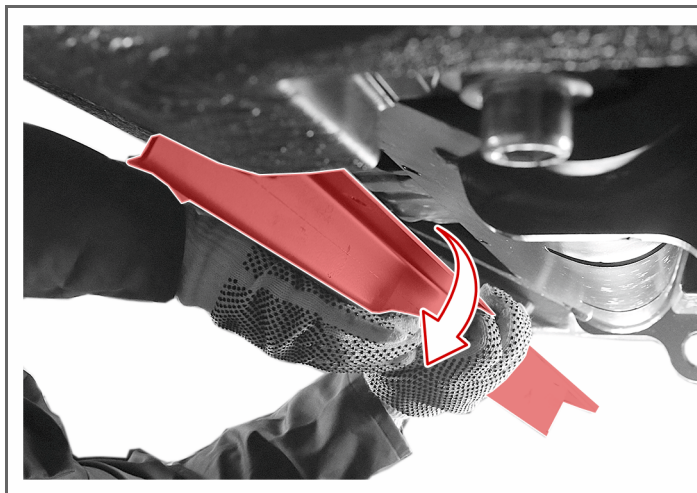
3. Place an oil collection container beneath the sump.

4. Unscrew the protective cap of the oil drain plug.

5. Screw the oil drainage hose onto the oil drain plug.

↳ The engine oil begins draining.

6. Wait until the engine oil has drained completely.

7. Unscrew the oil drainage hose from the oil drain plug.

8. Screw the protective cap back onto the oil drain plug.

The engine oil has been drained.

Topping up the engine oil

Carry out the following steps:

➔ Refill the engine oil.

The engine oil has been changed.

Performing the check

Carry out the following steps:

1. Switch on the diesel engine.

2. Allow the diesel engine to idle for a short while.

3. Switch off the diesel engine.

4. Inspect the sump and the oil drain plug for leaks.

5. Remove the oil collection container.

6. Re-install the sump guard on the wheel loader by using the three lugs.

7. Dispose of the engine oil that has been collected according to the local statutory provisions.

The check is complete.

✓ Done.

3.3.2 Changing the gearbox oil of the front axle

Location of the bolts on the front axle

Key

No.	Designation
1	Filler plug
2	Oil level plug
3	Drain plug

Requirement

·   The wheel loader is warmed up.

·   The wheel loader is standing on a horizontal surface.

·   The wheel loader is switched off.

·   The parking brake is applied.

·   The ignition key has been removed.

Tools required:

·   Allen key SW 12

·   Oil drip tray

·   Protective gloves

·   Suitable, fresh gearbox oil

Draining the
gearbox oil

⚠ **WARNING**

Health hazard posed by gearbox oil!
The gearbox oil is hazardous to health. Frequent skin contact can be carcinogenic.
➔ Avoid continuous skin contact with the gearbox oil.
➔ Always wear gloves when carrying out this job.

NOTICE

Environmental hazard posed by gearbox oil!
The used gearbox oil of the wheel loader is hazardous to the environment!
➔ Dispose of the used gearbox oil according to the local statutory provisions,
➔ Catch the draining gearbox oil in a suitable container.
➔ Prevent the gearbox oil from entering the soil.

Carry out the following steps:

1. Place an oil drip tray beneath the front axle.
↪ The oil drip tray prevents the gearbox oil from penetrating the subsoil.

2. Using an Allen key, unscrew the oil drain plug.

➥ The gearbox oil drains immediately.

3. Wait until the gearbox oil has drained completely.

4. Using an Allen key, screw the drain plug back into the front axle.

The gearbox oil has been drained.

Refilling the gearbox oil

Carry out the following steps:

1. Using an Allen key, unscrew the oil level plug.

2. Using an Allen key, unscrew the oil drain plug.
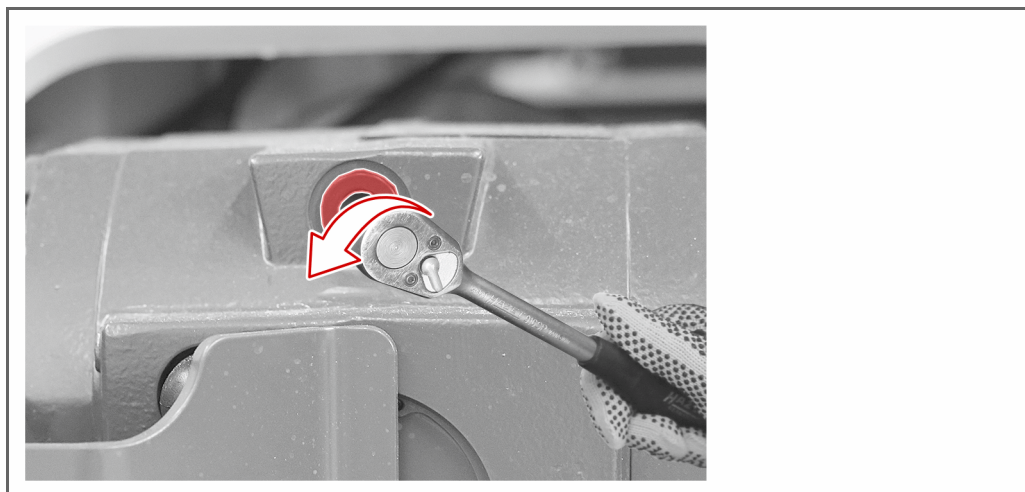
3. Refill with fresh gearbox oil up to the lower edge of the inspection port .

4. Using an Allen key, secure the oil level plug.

5. Using an Allen key, secure the oil filler plug.

6. Dispose of the gearbox oil that has been collected, according to the local statutory provisions,

The gearbox oil has been refilled.

✓ Done.

3.3.3   Changing the gearbox oil of the rear axle

Requirement

·   The wheel loader is warmed up.

·   The wheel loader is standing on a horizontal surface.

·   The wheel loader is switched off.

·   The parking brake is applied.

·   The ignition key has been removed.

Tools required:

·   Allen key SW 12

·   Oil drip tray

·   Protective gloves

·   Suitable, fresh gearbox oil

Draining the
gearbox oil

> ⚠ **WARNING**
>
> **Health hazard posed by gearbox oil!**
> The gearbox oil is hazardous to health. Frequent skin contact can be carcinogenic.
> ➔ Avoid continuous skin contact with the gearbox oil.
> ➔ Always wear gloves when carrying out this job.

> **NOTICE**
>
> **Environmental hazard posed by gearbox oil!**
> The used gearbox oil of the wheel loader is hazardous to the environment!
> ➔ Dispose of the used gearbox oil according to the local statutory provisions,
> ➔ Catch the draining gearbox oil in a suitable container.
> ➔ Prevent the gearbox oil from entering the soil.

Carry out the following steps:

1. Place an oil drip tray beneath the rear axle.

➥ The oil drip tray prevents the gearbox oil from penetrating the subsoil.

2. Using an Allen key, unscrew the oil drain plug.

➥ The gearbox oil drains immediately.

3. Wait until the gearbox oil has drained completely.

4. Using an Allen key, screw the drain plug back into therear axle.

The gearbox oil has been drained.

Refilling the
gearbox oil

Carry out the following steps:

1. Using an Allen key, unscrew the oil level plug.
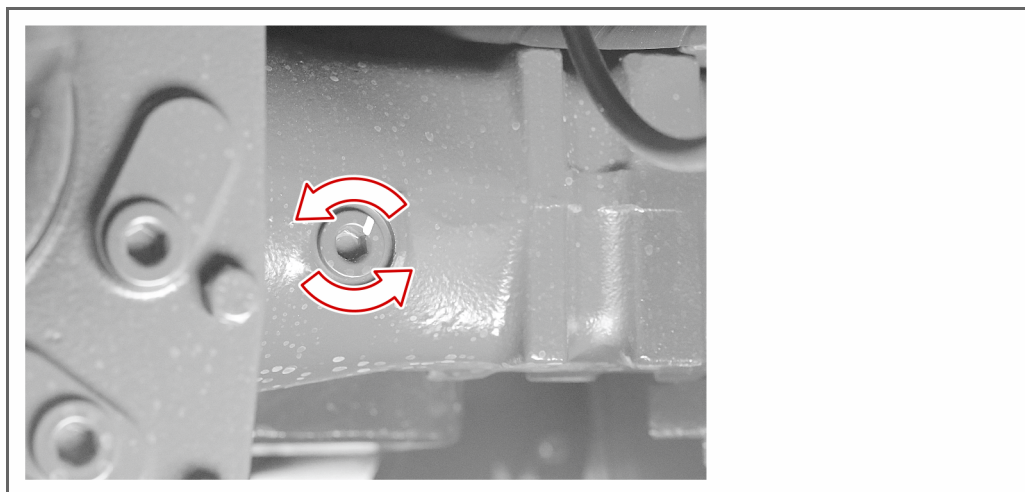
2. Refill with fresh gearbox oil up to the lower edge of the inspection port .
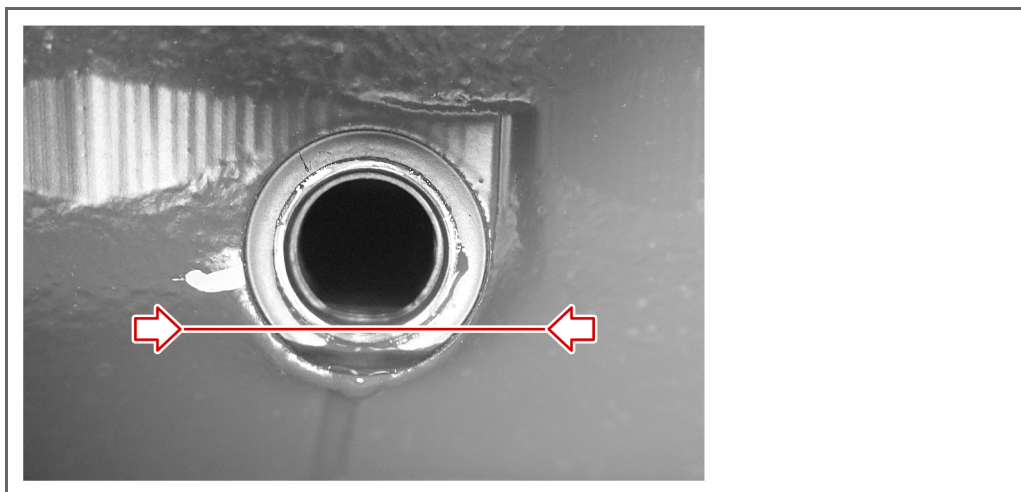
3. Using an Allen key, secure the oil level plug.

4. Dispose of the gearbox oil that has been collected, according to the local statutory provisions,

The gearbox oil has been refilled.

✓ Done.

3.3.4   Changing the gearbox oil of the planetary gear

Requirement

· The wheel loader is warmed up.

· The wheel loader is standing on a horizontal surface.

· The wheel loader is switched off.

· The parking brake is applied.

· The ignition key has been removed.

Tools required:

· Allen key SW 12

· Oil drip tray

· Protective gloves

· Suitable, fresh gearbox oil

Draining the
gearbox oil

⚠️ **WARNING**

Health hazard posed by gearbox oil!
The gearbox oil is hazardous to health. Frequent skin contact can be carcinogenic.
➔ Avoid continuous skin contact with the gearbox oil.
➔ Always wear gloves when carrying out this job.

NOTICE

Environmental hazard posed by gearbox oil!
The used gearbox oil of the wheel loader is hazardous to the environment!
➔ Dispose of the used gearbox oil according to the local statutory provisions,
➔ Catch the draining gearbox oil in a suitable container.
➔ Prevent the gearbox oil from entering the soil.

Carry out the following steps:

1. Move the wheel loader so that the oil level plug of the planetary gear is at the lowest position.

2. Place an oil drip tray in the tyre rim.

➥ The oil drip tray prevents the gearbox oil from penetrating the subsoil.

3. Using an Allen key, unscrew the oil level plug.
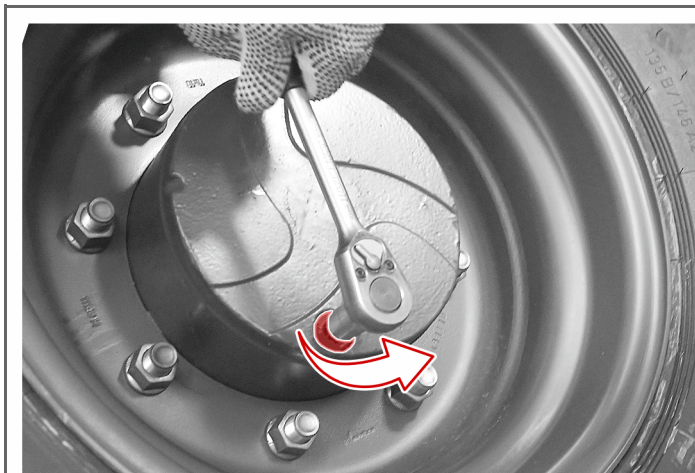
➥ The gearbox oil drains immediately.

4. Wait until the gearbox oil has drained completely.

5. Using an Allen key, fasten the oil level plug in teplanetary gear.

The gearbox oil has been drained.

Refilling the gearbox oil

Carry out the following steps:

1. Move the wheel loader so that the `OIL LEVEL` fill level line of the planetary gear is horizontal.
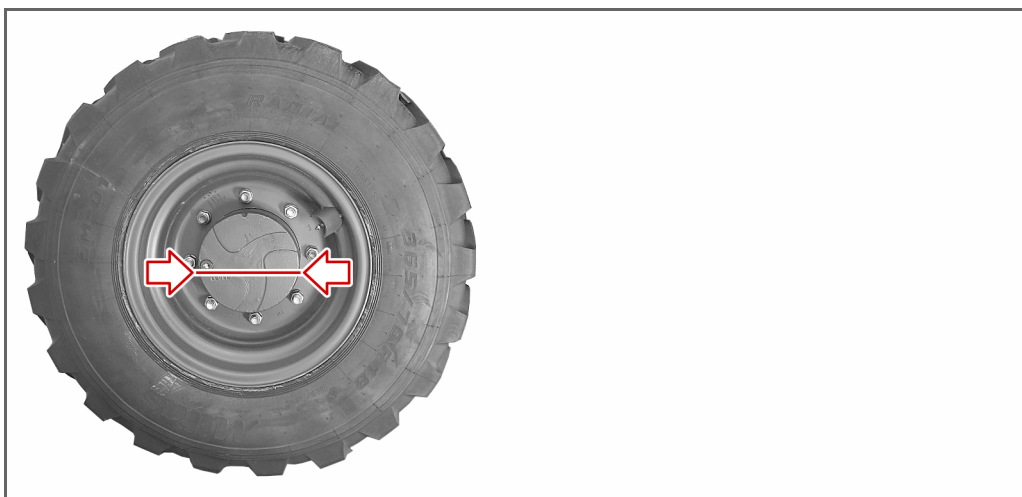
2. Using an Allen key, unscrew the oil level plug.
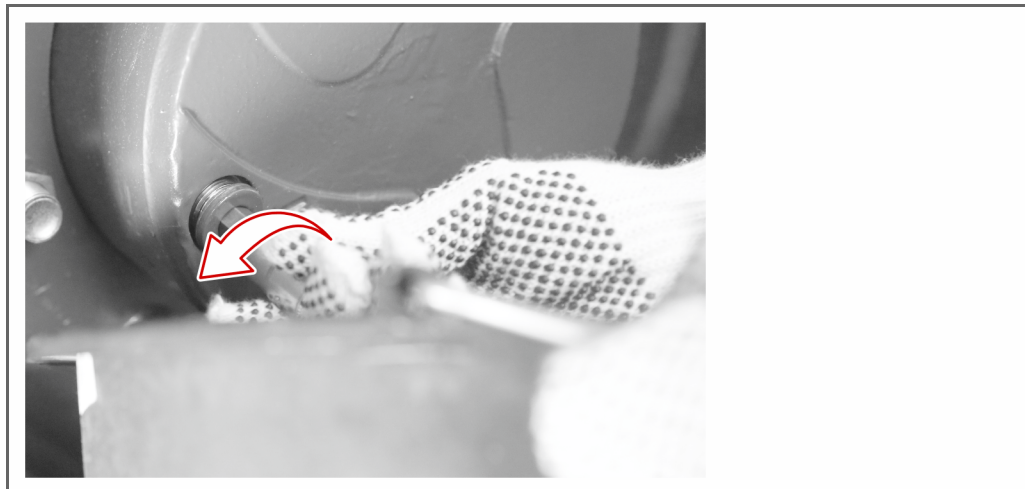
3. Fill with fresh gearbox oil in the inspection port.

   ! The oil level must reach precisely below the lower edge of the inspection port .
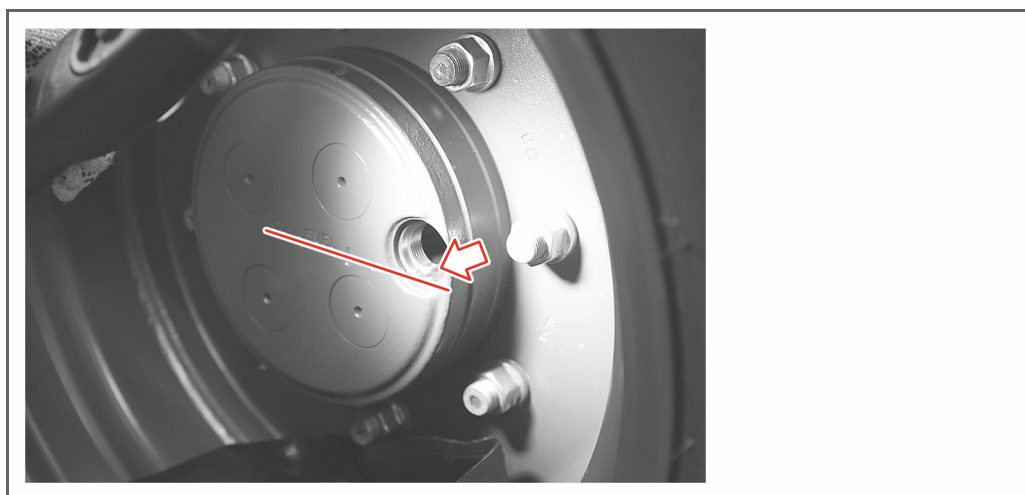
4. Using an Allen key, secure the oil level plug.

5. Wipe off any escaping gearbox oil with a cloth .

6. Dispose of the gearbox oil that has been collected, according to the local statutory provisions,

   The gearbox oil has been refilled.

   ✓ Done.

3.3.5 Changing the gearbox oil of the reduction gear

Location of the bolts on the of the reduction gear

Key

No.	Designation
1	Oil level plug
2	Drain plug

Requirement

- The wheel loader is warmed up.
- The wheel loader is standing on a horizontal surface.
- The wheel loader is switched off.
- The parking brake is applied.
- The ignition key has been removed.

Tools required:

- Allen key SW 12
- Oil drip tray
- Protective gloves
- Suitable, fresh gearbox oil

Draining the gearbox oil

> ⚠️ **WARNING**
>
> **Health hazard posed by gearbox oil!**
> The gearbox oil is hazardous to health. Frequent skin contact can be carcinogenic.
> ➔ Avoid continuous skin contact with the gearbox oil.
> ➔ Always wear gloves when carrying out this job.

> **NOTICE**
>
> **Environmental hazard posed by gearbox oil!**
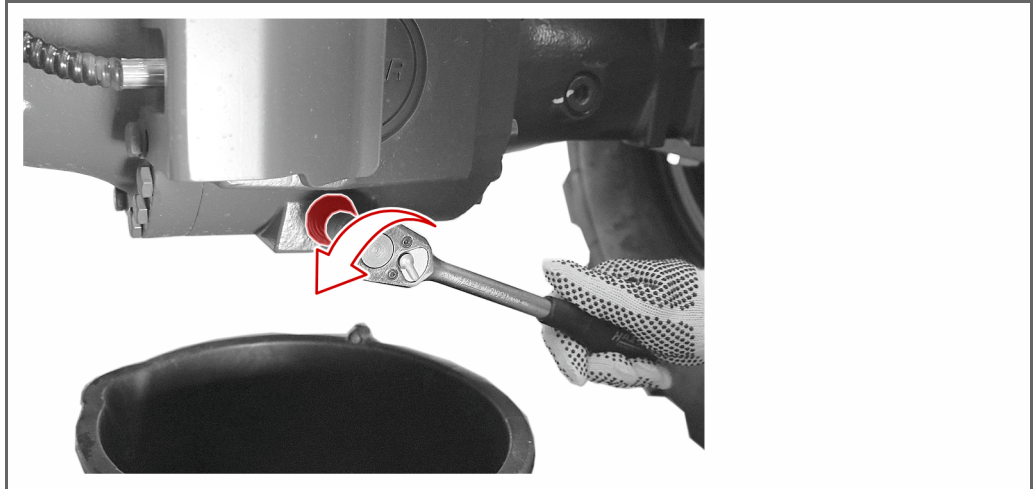> The used gearbox oil of the wheel loader is hazardous to the environment!
> ➔ Dispose of the used gearbox oil according to the local statutory provisions,
> ➔ Catch the draining gearbox oil in a suitable container.
> ➔ Prevent the gearbox oil from entering the soil.

Carry out the following steps:

1. Place an oil drip tray beneath the reduction gear.
↳ The oil drip tray prevents the gearbox oil from penetrating the subsoil.

2. Using an Allen key, unscrew the oil drain plug.

➥ The gearbox oil drains immediately.

3. Wait until the gearbox oil has drained completely.

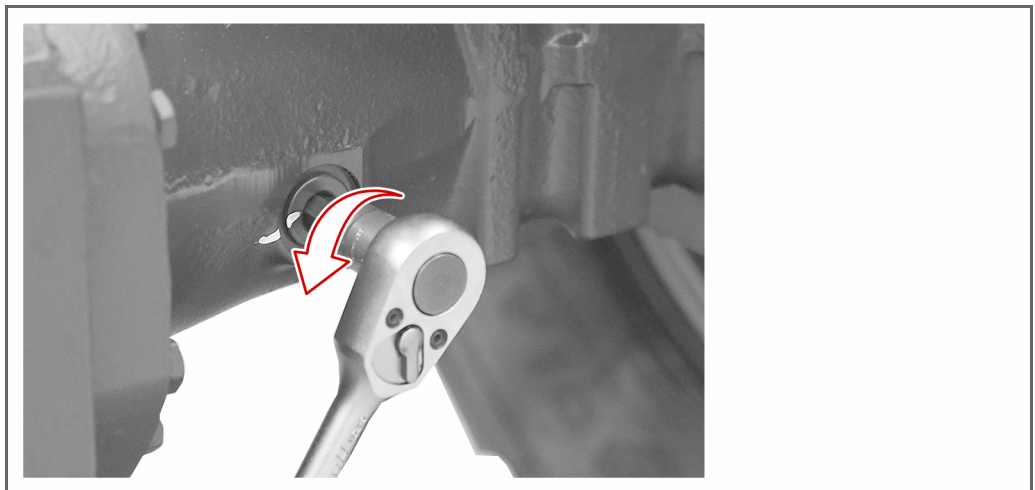**4.** Using an Allen key, secure the oil drain plug.

The gearbox oil has been drained.

Refilling the
gearbox oil

Carry out the following steps:

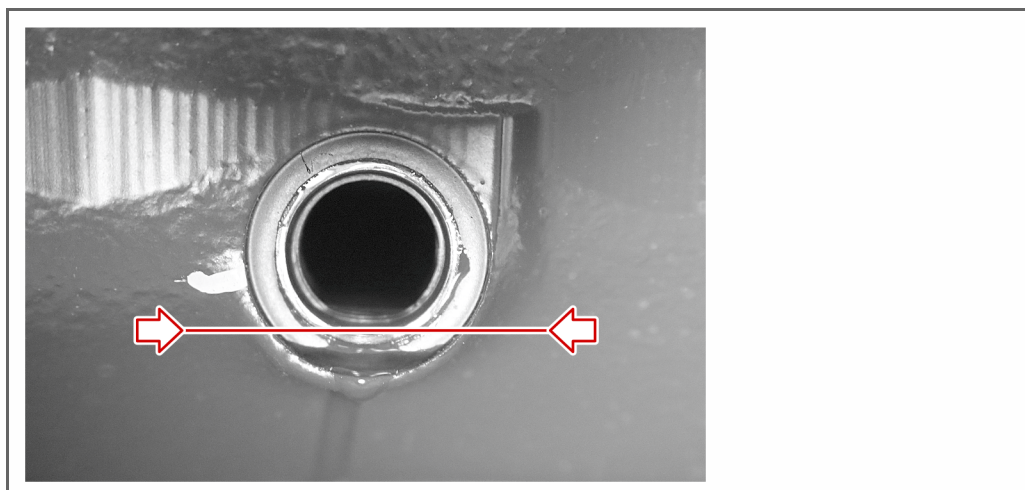**1.** Using an Allen key, unscrew the oil level plug.
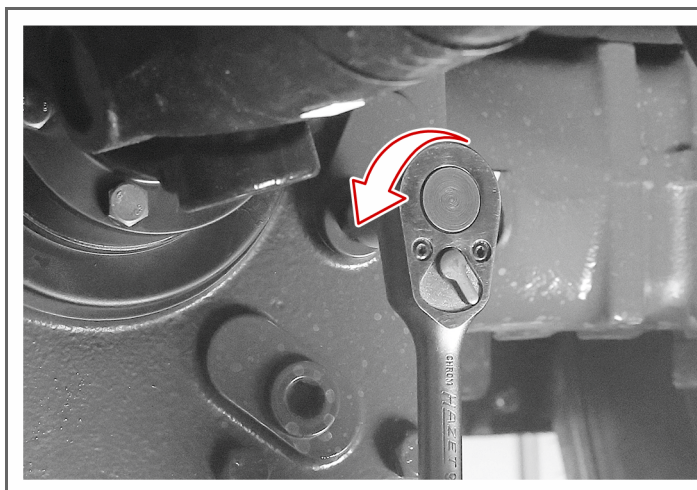
2. Pour fresh gearbox oil into the reduction gear.

! The oil level must reach precisely below the lower edge of the inspection port .

3. Using an Allen key, secure the oil level plug.

4. Remove the oil collection container.

5. Dispose of the gearbox oil that has been collected, according to the local statutory provisions,

The gearbox oil has been refilled.

✓ Done.

3.3.6   Refilling with diesel fuel

Requirement

· The wheel loader is standing on a horizontal surface.

· The wheel loader is switched off.

· The ignition key has been removed.

· The parking brake is applied.

Tools required:

· Cloths

· Ignition key

· Protective gloves

· Ratchet with extension and socket

· Diesel fuel collection container

· suitable fresh diesel fuel

Drain the diresel fuel

⚠ **WARNING**

Fire hazard due to ignition of the diesel fuel!
Burns may result. In addition, the wheel loader will be damaged by the fire!
➔ Refuel the wheel loader only once it has cooled down.
➔ Smoking `es strictly prohibited` when refuelling the wheel-loader!
➔ Immediately clean up any diesel fuel that has spilled.

⚠ **WARNING**

Health hazard posed by diesel fuel!
The diesel fuel is hazardous to health. Frequent skin contact can be carcinogenic.
➔ Avoid continuous skin contact with the diesel fuel.
➔ Always wear gloves when carrying out this job.

NOTICE

Environmental hazard posed by diesel fuel!
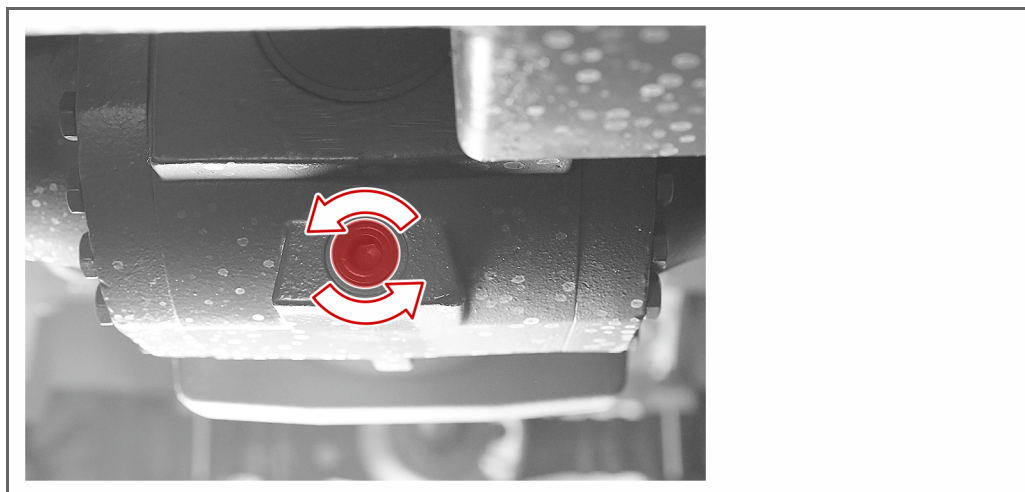The diesel fuel used by the wheel loader is hazardous to the environment!
➔ Dispose of the diesel fuel according to the local statutory provisions,
➔ Catch the draining diesel fuel in a suitable container.
➔ Prevent the diesel fuel from entering the soil.

Carry out the following steps:

1. Place a diesel fuel collection container beneath the diesel fuel tank.
↪ The diesel fuel collection container prevents the diesel fuel from penetrating the subsoil.

2. Using the ratchet and extension, remove the drain plug.
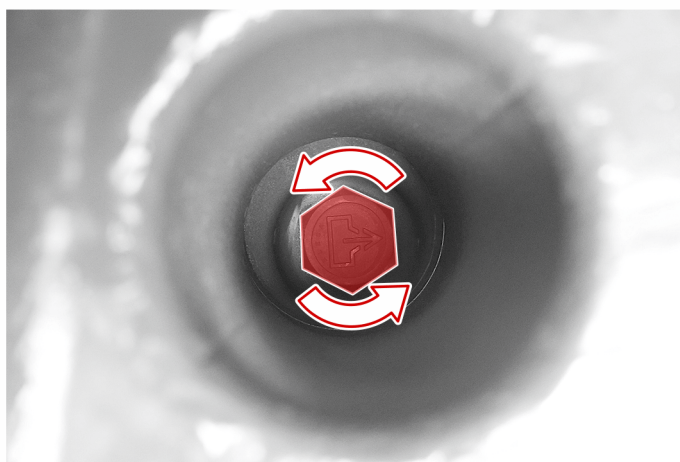
➥ The diesel fuel drains immediately.

3. Wait until the diesel fuel has drained completely.

4. Using the ratchet and extension, refasten the drain plug.

The diesel fuel has been drained.

Refilling diesel fuel   Carry out the following steps:

1. Open the engine hood.

2. Open the ‹TANK CAP› of the ‹DIESEL FUEL FILLING NOZZLE›.

3. Carefully pour the ‹DIESEL FUEL› into the ‹TANK›.

4. Close the ‹TANK CAP› of the ‹DIESEL FUEL FILLING NOZZLE›.

5. Wipe off any spilled ‹DIESEL FUEL› with a ‹CLOTH› .

6. Close the engine hood.

The diesel fuel has been topped up.

✓ Done.

3.4 Lubrication

3.4.1 Lubrication plan

Wheel loader lubrication schedule AX Series

Lubrication intervals	Part on wheel loader	Number of lubrication points
after 50 hours of operation	Engine hood	**2** lubrication points, see Section "Lubrication points - engine hood" (Page 73).
after 50 hours of operation	Doors	**4** lubrication points, see Section "Lubrication points - doors" (Page 74).

3.4.2 Lubrication points - engine hood

Engine hood | 2 lubrication points

3.4.3 Lubrication points - doors
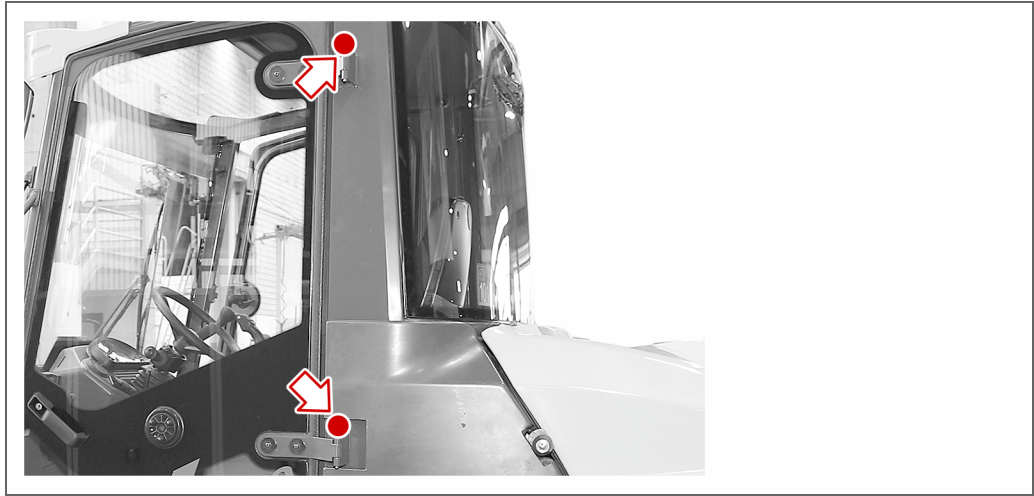
Doors | each of 2 lubrication points (both sides)

4   Circuit diagrams

Circuit diagrams can be obtained from Mecalac on request.

5 Annex

5.1 Spare Parts

5.1.1 Filter
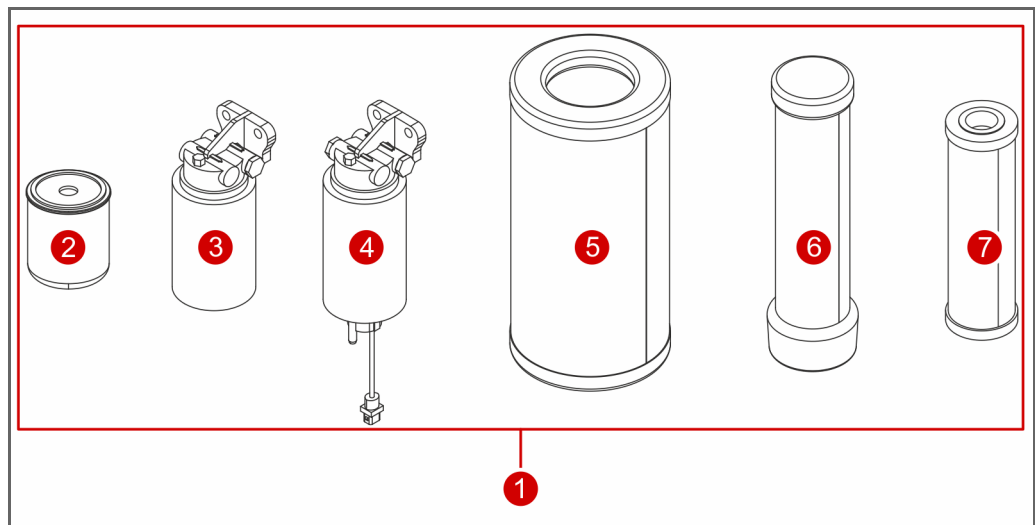
Filter – overview

Key

No.	Designation	Mecalac TKZ
1	Filter set	23133428
2	Engine oil filter	23110650
3	Fuel filter	23133339
4	Fuel filter	23133338
5	Air filter set	4198305A
6	Safety cartridge	4198304A
7	Hydraulic fluid filter	23109159

5.1.2 Consumables

Key

Designation	Quantity	Mecalac TKZ
Engine oil	8	2320062
Gearbox oil	16	23104578
Hydraulic fluid	60	23107305
Lubricating grease cartridge	1	4117807A
Coolant	14	23129554

5.2 Deutz error messages

DTC-List
Diagnosis- and Errorcodes

DTC-List
Diagnosis- and Errorcodes

Deutz-Code / SPN / Fehlername	Seite
166 / 654 / InjVlvCyl4B	40
167 / 655 / InjVlvCyl5A	40
168 / 655 / InjVlvCyl5B	40
169 / 656 / InjVlvCyl6A	41
170 / 656 / InjVlvCyl6B	41
171 / 657 / InjVlvCyl7A	41
172 / 657 / InjVlvCyl7B	42
173 / 658 / InjVlvCyl8A	42
174 / 658 / InjVlvCyl8B	42
175 / 523370 / InjVlvErrDet	43
176 / 523615 / MeUnCD_ADC	43
177 / 523615 / MeUnCDNoLoad	43
178 / 523615 / MeUnCDSCBat	44
179 / 523615 / MeUnCDSCGnd	44
182 / 2634 / MnRly1_SCB	44
183 / 2634 / MnRly1_SCG	45
184 / 523420 / Montr	45
186 / 2634 / MRlyCD	45
187 / 563 / MRlyCDMnRly2	46
188 / 2634 / MRlyCDMnRly3	46
189 / 523450 / MSSCD1	46
190 / 523451 / MSSCD2	47
191 / 523452 / MSSCD3	47
192 / 639 / NetMngCANAOff	47
193 / 1231 / NetMngCANBOff	48
194 / 1235 / NetMngCANCOff	48
195 / 705 / OPLpCD	48
196 / 100 / OPSCD	49
197 / 100 / OPSCD1	49
198 / 100 / OPSCDSysReacHi	49
199 / 100 / OPSCDSysReacLo	50
200 / 1237 / OSwCD	50
201 / 175 / OTSCD	50
203 / 175 / OTSCDSysReac	51
208 / 523470 / PRVMon	51
209 / 157 / RailCD	51
210 / 157 / RailCDOfsTst	52

Deutz-Code / SPN / Fehlername	Seite
211 / 523613 / RailMeUn0	52
212 / 523613 / RailMeUn1	52
213 / 523613 / RailMeUn2	53
214 / 523613 / RailMeUn3	53
215 / 523613 / RailMeUn4	53
216 / 523613 / RailMeUn7	54
218 / 523490 / SOPTst	54
219 / 1079 / SSpMon1	54
221 / 1080 / SSpMon2	55
222 / 523601 / SSpMon3	55
223 / 677 / StrtCDHS	55
224 / 677 / StrtCDLS	56
225 / 624 / SysLamp	56
226 / 158 / T15CD	56
227 / 523550 / T50CD	57
228 / 523550 / TPUMon	57
232 / 84 / VSSCD1	57
235 / 523600 / WdCom	58
236 / 523470 / PRVMonSysReac	58
237 / 523006 / APPCDSwtnSel	58
238 / 523007 / FrmMng_TORxEngPress	59
239 / 523008 / MplCtl	59
240 / 98 / OLSCD	59
241 / 98 / OLSCDSysReacHi	60
242 / 107 / ADPSCDAna	60
243 / 98 / OLSCDSysReacLo	60
244 / 523009 / PrvMonWear	61
245 / 523010 / RailMeUn8	61
246 / 523650 / FISys_FLPFMSysReac	61
247 / 523651 / FISys_FTSFMSysReac	62
248 / 523652 / FISys_FlushStateEngineOff	62
249 / 523653 / FISys_RapeOilHeatEx	62
250 / 523654 / FrmMngDieselLvl	63
251 / 523655 / FrmMngFuelTemp	63
252 / 523656 / FrmMngLowPressureDiesel	63
253 / 523657 / FrmMngRapeOilIn	64
254 / 523658 / FrmMngRapeOilLvl	64

Deutz-Code / SPN / Fehlername	Seite
255 / 523659 / FrmMngRapeOilVlv1	64
256 / 523660 / FrmMngRapeOilVlv2	65
257 / 523661 / FrmMngRapeOilVlv3	65
258 / 523662 / FrmMngRapeOilVlv4	65
259 / 523663 / FrmMngRapeOilVlv5	66
260 / 523664 / FrmMngSTIN1RX	66

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

11 / 107 / AirFltSysReac

Error description AIR FILTER COND.
Air filter differential pressure: the pressure difference of the intake air between the filter inlet and outlet calculated by ECU is above the target range and the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 11
BlinkCode (short-long-short): 1 - 3 - 6
SPN: 107
possible FMI:
    0: data valid, but above normal working area
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Pressure loss above target range with system reaction, air filter clogged or defective, sensor not working, connection cable demaged
Take actions for error repair
Check airfilter and if necessary clean or renew it, check cabling, check air filter and if necessary replace the filter component, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning or Warning and power reduction
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: actual value

12 / 91 / APP1

Error description THROTTLE 1
Analog accelerator pedal sensor 1 or double accelerator pedal sensor: the voltage measured by ECU is out of the target range or the calculated pedal position is implausible compared with the position of the second pedal

Error codes
DEUTZ-Errorcode: 12
BlinkCode (short-long-short): 2 - 2 - 6
SPN: 91
possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to –Ubatt
    12. Errormode not identifiable
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Voltage outside target range, signal implausible compared to signal of redundant pedal (analog pedal 1), sensor defective, connection cable demaged
Take actions for error repair
Check cabling, check accelator pedal sensor and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, switching to substitute value correspond to Priority-Chain or Limp Home
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: actual value

14 / 91 / APPPwm

Error description THROTTLE 1
Digital accelerator pedal sensor (PWM): the signal received by ECU is defective or implausible or the pulse-duty factor is out of the target range

Error codes
DEUTZ-Errorcode: 14
BlinkCode (short-long-short): 2 - 2 - 2
SPN: 91
possible FMI:
    8: unusual frequency, pulse or period.
    8: unusual frequency, pulse or period.
    2: data stream is defective
    8: unusual frequency, pulse or period.

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Duty cycle outside target range, signal erroneous or implausible (pedal 1), sensor defective, onnection cable demaged
Take actions for error repair
Check cabling, check accelator pedal sensor and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, switching to substitute value correspond to Priority-Chain or Limp Home
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

DTC-List
Diagnosis- and Errorcodes

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

15 / 91 / APPPwmPer

Error description THROTTLE 1
digital accelerator pedal sensor (PWM): the frequence of the signal received by ECU is out of the target range

Error codes
DEUTZ-Errorcode: 15
BlinkCode (short-long-short): 2 - 2 - 2
SPN: 91
possible FMI:
    8: unusual frequency, pulse or period.
    8: unusual frequency, pulse or period.
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Pulse frequency outside target range (pedal 1), sensor defective, connection cable demaged

Take actions for error repair
Check cabling, check accelator pedal sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, switching to substitute value correspond to Priority-Chain or Limp Home
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

16 / 108 / APSCD

Error description BAROMETRIC PRESS.
Ambient air pressure sensor (in ECU): the voltage measured by ECU is out of the target range or the calculated ambient air pressure is implausible compared with the charge air pressure

Error codes
DEUTZ-Errorcode: 16
BlinkCode (short-long-short): 2 - 9 - 2
SPN: 108
possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    12. Errormode not identifiable
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Ambient air pressure sensor defective, ECU defective

Take actions for error repair
Change ECU

other error properties
System reaction: Warning, substitute value (0,85bar)
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: default value

17 / 729 / ArHt1

Error description AIR HEATER RELAY
Air heater relay: the current drain measured by ECU is out of the target range

Error codes
DEUTZ-Errorcode: 17
BlinkCode (short-long-short): 2 - 6 - 3
SPN: 729
possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    5: current to low or broken wire
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit at EDC output, relay defective, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check relay and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: shut off value

referrenced ECU-Software
P490_ : 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

18 / 730 / ArHt2

Error description AIR HEATER VALVE
Air heater magnet valve: the current drain measured by ECU is out of the target range

Error codes
DEUTZ-Errorcode: 18
BlinkCode (short-long-short): 2 - 6 - 3
SPN: 730
possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    5: current to low or broken wire
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Cable break or short circuit, valve defective, connection cable demaged
Take actions for error repair
Check valve and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: shut off value

19 / 676 / ArHtCD_NoLd

Error description AIR HEATER
Air heater relay: the ECU detects no switching operation at the input of a readback process

Error codes
DEUTZ-Errorcode: 19
BlinkCode (short-long-short): 2 - 6 - 3
SPN: 676
possible FMI:
    12. Errormode not identifiable
    4: Voltage to low or short circuit to -Ubatt
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Relay energized, but no feedback on sense line, relay defective or wrong wired, preheat component defective, connection cable demaged
Take actions for error repair
Check cabling of preheat component, if relay not working,check relay and if necessary replace it, check preheat component and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: setpoint for output status

20 / 676 / ArHtCD_RlyErr

Error description AIR HEATER
Air heater relay: the ECU detects an implausible signal at the input of a readback process

Error codes
DEUTZ-Errorcode: 20
BlinkCode (short-long-short): 2 - 6 - 3
SPN: 676
possible FMI:
    5: current to low or broken wire
    2: data stream is defective
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Relay not energized, but working voltage on sense line, relay defective (can not disconnect or switch off), preheat component defective, connection cable demaged
Take actions for error repair
Check cabling of preheat component, if relay not working,check relay and if necessary replace it, check preheat component and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: setpoint for output status

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

22 / 168 / BattCD

Error description BATTERY VOLTAGE
Battery voltage: the voltage measured by ECU is out of the target range

Error codes
DEUTZ-Errorcode: 22
BlinkCode (short-long-short): 3 - 1 - 8
SPN: 168
possible FMI:
  0: data valid, but above normal working area
  1: data valid, but below normal working area
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Voltage below target range, battery defective, too high power supply voltage, too high contact resistance, wiring demaged, energie system overloaded, parametering inaccurate, ECU defective

Take actions for error repair
Check LIMA?, ECU, cabling, contact resistance, safety fuses, too high load in energy system, check battery and if necessary replace it, check battery pole and if necessary clean it, check connection cable and if necessary repair or replace it, check volta

other error properties
System reaction: Warning, substitute value, dependent upon supply voltage (12V, 24V)
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

23 / 168 / BattCDSysReac

Error description BATTERY VOLTAGE
Battery voltage: the voltage measured by ECU is out of the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 23
BlinkCode (short-long-short): 3 - 1 - 8
SPN: 168
possible FMI:
  2: data stream is defective
  2: data stream is defective
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Above target range with system reaction, too high power supply voltage, parametering inaccurate, ECU defective

Take actions for error repair
Check dataset of calibration of working voltage for application, check LIMA? Check voltage of generator, check the parameters and if necessary correct them, replace ECU

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

24 / 523561 / BIPCyl1

Error description INJECT. PERIOD ZYL.1
Begin of injection of cylinder 1: the ECU can not identify the magnet valve or the injection pump with the measured value of current drain at the begin of the injection

Error codes
DEUTZ-Errorcode: 24
BlinkCode (short-long-short): 5 - 3 - 1
SPN: 523561
possible FMI:
  2: data stream is defective
  2: data stream is defective
  2: data stream is defective
  2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Value outside target range or missing (cylinder 1), magnet valve or injection pump defective

Take actions for error repair
Check magnetic valve or injection pump   and if necessary change them

other error properties
System reaction: No function at the moment/ Allocation check cylinder!
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

25 / 523562 / BIPCyl2

Error description INJECT. PERIOD ZYL.2
Begin of injection of cylinder 2: the ECU can not identify the magnet valve or the injection pump with the measured value of current drain at the begin of the injection

Error codes
DEUTZ-Errorcode: 25
BlinkCode (short-long-short): 5 - 3 - 2
SPN: 523562
possible FMI:
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Value outside target range or missing (cylinder 2), magnet valve or injection pump defective
Take actions for error repair
Check magnetic valve or injection pump   and if necessary change them
other error properties
System reaction: No function at the moment/ Allocation check cylinder!
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

26 / 523563 / BIPCyl3

Error description INJECT. PERIOD ZYL.3
Begin of injection of cylinder 3: the ECU can not identify the magnet valve or the injection pump with the measured value of current drain at the begin of the injection

Error codes
DEUTZ-Errorcode: 26
BlinkCode (short-long-short): 5 - 3 - 3
SPN: 523563
possible FMI:
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Value outside target range or missing (cylinder 3), magnet valve or injection pump defective
Take actions for error repair
Check magnetic valve or injection pump   and if necessary change them
other error properties
System reaction: No function at the moment/ Allocation check cylinder!
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

27 / 523564 / BIPCyl4

Error description INJECT. PERIOD ZYL.4
Begin of injection of cylinder 4: the ECU can not identify the magnet valve or the injection pump with the measured value of current drain at the begin of the injection

Error codes
DEUTZ-Errorcode: 27
BlinkCode (short-long-short): 5 - 3 - 4
SPN: 523564
possible FMI:
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Value outside target range or missing (cylinder 4), magnet valve or injection pump defective
Take actions for error repair
d
other error properties
System reaction: No function at the moment/ Allocation check cylinder!
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

28 / 523565 / BIPCyl5

Error description INJECT. PERIOD ZYL.5
Begin of injection of cylinder 5: the ECU can not identify the magnet valve or the injection pump with the measured value of current drain at the begin of the injection

Error codes
DEUTZ-Errorcode: 28
BlinkCode (short-long-short): 5 - 3 - 5
SPN: 523565
possible FMI:
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Value outside target range or missing (cylinder 5), magnet valve or injection pump defective
Take actions for error repair
Check magnetic valve or injection pump   and if necessary change them
other error properties
System reaction: No function at the moment/ Allocation check cylinder!
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

29 / 523566 / BIPCyl6

Error description INJECT. PERIOD ZYL.6
Begin of injection of cylinder 6: the ECU can not identify the magnet valve or the injection pump with the measured value of current drain at the begin of the injection

Error codes
DEUTZ-Errorcode: 29
BlinkCode (short-long-short): 5 - 3 - 6
SPN: 523566
possible FMI:
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Value outside target range or missing (cylinder 6), magnet valve or injection pump defective
Take actions for error repair
Check magnetic valve or injection pump   and if necessary change them
other error properties
System reaction: No function at the moment/ Allocation check cylinder!
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

30 / 523567 / BIPCyl7

Error description INJECT. PERIOD ZYL.7
Begin of injection of cylinder 7: the ECU can not identify the magnet valve or the injection pump with the measured value of current drain at the begin of the injection

Error codes
DEUTZ-Errorcode: 30
BlinkCode (short-long-short): 5 - 3 - 7
SPN: 523567
possible FMI:
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Value outside target range or missing (cylinder 7), magnet valve or injection pump defective
Take actions for error repair
Check magnetic valve or injection pump   and if necessary change them
other error properties
System reaction: No function at the moment/ Allocation check cylinder!
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501   P492_: 213
P491_: 220, 310, 400, 501   P513_: 214, 300

31 / 523568 / BIPCyl8

Error description INJECT. PERIOD ZYL.8
Begin of injection of cylinder 8: the ECU can not identify the
magnet valve or the injection pump with the measured value of
current drain at the begin of the injection

Error codes
DEUTZ-Errorcode: 31
BlinkCode (short-long-short): 5 - 3 - 8
SPN: 523568
possible FMI:
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Value outside target range or missing (cylinder 8), magnet valve
or injection pump defective
Take actions for error repair
Check magnetic valve or injection pump   and if
necessary change them
other error properties
System reaction: No function at the moment/ Allocation check
cylinder!
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

32 / 102 / BPSCD

Error description CHARGE AIR PRESS.
Charge air pressure sensor: the measured voltage of sensor by
ECU is out of the target range; the calculated charge air pressure
is implausible or the received value via CAN is defective
Error codes
DEUTZ-Errorcode: 32
BlinkCode (short-long-short): 2 - 2 - 3
SPN: 102
possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    2: data stream is defective
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Cable break or short circuit, sensor defective, onnection cable
demaged
Take actions for error repair
Check cabling, if LDF6T sensor not working, check sensor and if
necessary replace it, check connection cable and if necessary
repair or replace it
other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: default value

33 / 102 / BPSCDSysReac

Error description CHARGE AIR PRESS.
Charge air pressure: the charge air pressure calculated by ECU
is above the target range; the ECU activates a system reaction
Error codes
DEUTZ-Errorcode: 33
BlinkCode (short-long-short): 2 - 2 - 3
SPN: 102
possible FMI:
    2: data stream is defective
    2: data stream is defective
    12: Errormode not identifiable
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.
Possible reason for error
Outside target range with system reaction, air system damaged,
sensor defective, onnection cable demaged
Take actions for error repair
Check air system, inspect air system and if necessary repair it,
check sensor and if necessary replace it, check connection cable
and if necessary repair or replace it
other error properties
System reaction: Advice: BPSCD_stSysReacReq
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

DTC-List
Diagnosis- and Errorcodes

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

37 / 111 / CLSCDSysReac

Error description ENG COOLANT LEVEL
Coolant level: the coolant level calculated by ECU is underneath the allowed minimum

Error codes
DEUTZ-Errorcode: 37
BlinkCode (short-long-short): 2 - 3 - 5
SPN: 111
possible FMI:
   1: data valid, but below normal working area
   1: data valid, but below normal working area
   12. Errormode not identifiable
   12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
Outside target range with system reaction, cooling system untight, sensor defective, onnection cable demaged

Take actions for error repair
Check coolant level, check cabling, inspect cooling system and if necessary repair it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Advice: CLSCD_stSysReacReq
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: actual value

38 / 1323 / CmbChbMisfire1

Error description MISFIRE CYL. 1
Misfire at cylinder 1: the number of the misfire detected by ECU is out of the allowed limit value

Error codes
DEUTZ-Errorcode: 38
BlinkCode (short-long-short): 2 - 4 - 1
SPN: 1323
possible FMI:
   12: Defective component
   12. Errormode not identifiable
   12. Errormode not identifiable
   12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Misfire detected (cylinder 1), magnet valve or injection pump defective, fuel system defective, motor engineering demaged

Take actions for error repair
Check magnetic valve or injection pump and if necessary replace them, check fuel system and if necessary repair it, check motor engineering and if necessary repair it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 0
Measurement @ errortime: actual value

39 / 1324 / CmbChbMisfire2

Error description MISFIRE CYL. 2
Misfire at cylinder 2: the number of the misfire detected by ECU is out of the allowed limit value

Error codes
DEUTZ-Errorcode: 39
BlinkCode (short-long-short): 2 - 4 - 1
SPN: 1324
possible FMI:
   12: Defective component
   12. Errormode not identifiable
   12. Errormode not identifiable
   12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Misfire detected (cylinder 2), magnet valve or injection pump defective, fuel system defective, motor engineering demaged

Take actions for error repair
Check magnetic valve or injection pump and if necessary replace them, check fuel system and if necessary repair it, check motor engineering and if necessary repair it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 0
Measurement @ errortime: actual value

referrenced ECU-Software
P490_ : 220, 310, 501
P491_ : 220, 310, 400, 501
P492_ : 213
P513_ : 214, 300

40 / 1325 / CmbChbMisfire3

Error description MISFIRE CYL. 3
Misfire at cylinder 3: the number of the misfire detected by ECU is out of the allowed limit value

Error codes
  DEUTZ-Errorcode: 40
  BlinkCode (short-long-short): 2 - 4 - 1
  SPN: 1325
  possible FMI:
    12: Defective component
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Misfire detected (cylinder 3), magnet valve or injection pump defective, fuel system defective, motor engineering demaged

Take actions for error repair
Check magnetic valve or injection pump and if necessary replace them, check fuel system and if necessary repair it, check motor engineering and if necessary repair it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 0
Measurement @ errortime: actual value

41 / 1326 / CmbChbMisfire4

Error description MISFIRE CYL. 4
Misfire at cylinder 4: the number of the misfire detected by ECU is out of the allowed limit value

Error codes
  DEUTZ-Errorcode: 41
  BlinkCode (short-long-short): 2 - 4 - 1
  SPN: 1326
  possible FMI:
    12: Defective component
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Misfire detected (cylinder 4), magnet valve or injection pump defective, fuel system defective, motor engineering demaged

Take actions for error repair
Check magnetic valve or injection pump and if necessary replace them, check fuel system and if necessary repair it, check motor engineering and if necessary repair it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 0
Measurement @ errortime: actual value

42 / 1327 / CmbChbMisfire5

Error description MISFIRE CYL. 5
Misfire at cylinder 5: the number of the misfire detected by ECU is out of the allowed limit value

Error codes
  DEUTZ-Errorcode: 42
  BlinkCode (short-long-short): 2 - 4 - 1
  SPN: 1327
  possible FMI:
    12: Defective component
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Misfire detected (cylinder 5), magnet valve or injection pump defective, fuel system defective, motor engineering demaged

Take actions for error repair
Check magnetic valve or injection pump and if necessary replace them, check fuel system and if necessary repair it, check motor engineering and if necessary repair it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 0
Measurement @ errortime: actual value

43 / 1328 / CmbChbMisfire6

Error description MISFIRE CYL. 6
Misfire at cylinder 6: the number of the misfire detected by ECU is out of the allowed limit value

Error codes
   DEUTZ-Errorcode: 43
   BlinkCode (short-long-short): 2 - 4 - 1
   SPN: 1328
   possible FMI:
      12: Defective component
      12. Errormode not identifiable
      12. Errormode not identifiable
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Misfire detected (cylinder 6), magnet valve or injection pump defective, fuel system defective, motor engineering demaged

Take actions for error repair
Check magnetic valve or injection pump and if necessary replace them, check fuel system and if necessary repair it, check motor engineering and if necessary repair it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 0
Measurement @ errortime: actual value

44 / 1450 / CmbChbMisfire7

Error description MISFIRE CYL. 7
Misfire at cylinder 7: the number of the misfire detected by ECU is out of the allowed limit value

Error codes
   DEUTZ-Errorcode: 44
   BlinkCode (short-long-short): 2 - 4 - 1
   SPN: 1450
   possible FMI:
      12: Defective component
      12. Errormode not identifiable
      12. Errormode not identifiable
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Misfire detected (cylinder 7), magnet valve or injection pump defective, fuel system defective, motor engineering demaged

Take actions for error repair
Check magnetic valve or injection pump and if necessary replace them, check fuel system and if necessary repair it, check motor engineering and if necessary repair it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 0
Measurement @ errortime: actual value

45 / 1451 / CmbChbMisfire8

Error description MISFIRE CYL. 8
Misfire at cylinder 8: the number of the misfire detected by ECU is out of the allowed limit value

Error codes
   DEUTZ-Errorcode: 45
   BlinkCode (short-long-short): 2 - 4 - 1
   SPN: 1451
   possible FMI:
      12: Defective component
      12. Errormode not identifiable
      12. Errormode not identifiable
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Misfire detected (cylinder 8), magnet valve or injection pump defective, fuel system defective, motor engineering demaged

Take actions for error repair
Check magnetic valve or injection pump and if necessary replace them, check fuel system and if necessary repair it, check motor engineering and if necessary repair it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 0
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

46 / 1322 / CmbChbMisfireMul

Error description MULTIPL. CYL. MISFIRE
Misfire at more cylinders: the number of the misfire detected by
ECU is out of the allowed limit value
Error codes
  DEUTZ-Errorcode: 46
  BlinkCode (short-long-short): 2 - 4 - 1
  SPN: 1322
  possible FMI:
    12: Defective component
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Misfire detected, magnet valve or injection pump defective, fuel
system defective, motor engineering demaged
Take actions for error repair
Check magnetic valve or injection pump and if necessary replace
them, check fuel system and if necessary repair it, check motor
engineering and if necessary repair it
other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 0
Measurement @ errortime: actual value

47 / 1346 / CmbChbSysReac

Error description MISFIRE SYST. REACT
Misfire at more cylinders: the number of the misfire detected by
ECU is out of the allowed limit value; the ECU activates a system
reaction
Error codes
  DEUTZ-Errorcode: 47
  BlinkCode (short-long-short): 2 - 4 - 1
  SPN: 1346
  possible FMI:
    0: data valid, but above normal working area
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Misfire detected with system reaction, magnet valve or injection
pump defective, fuel system defective, motor engineering
demaged
Take actions for error repair
Check magnetic valve or injection pump and if necessary replace
them, check fuel system and if necessary repair it, check motor
engineering and if necessary repair it
other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 0
Measurement @ errortime: actual value

48 / 1109 / CoEngShOffDemlgr

Error description SHUT OFF REQUEST
Request of engine off: the operator ignors the engine off request
within an allowed period.
Error codes
  DEUTZ-Errorcode: 48
  BlinkCode (short-long-short): 3 - 4 - 1
  SPN: 1109
  possible FMI:
    2: data stream is defective
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Shut-off request ignored by operator
Take actions for error repair
Warranty relevant
other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501   P492_: 213
P491_: 220, 310, 400, 501   P513_: 214, 300

52 / 1072 / CRERCD

Error description ENGINE BRAKE INT.
Engine brake actuator (internal): the current drain measured by ECU is out of the target range or the maximum permissble temperature of the ECU component for power supply of the actuator is exceeded.

Error codes
DEUTZ-Errorcode: 52
BlinkCode (short-long-short): 5 - 2 - 8
SPN: 1072
possible FMI:
   3: Voltage to high or short circuit to +Ubatt
   4: Voltage to low or short circuit to -Ubatt
   5: current to low or broken wire
   12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
cable break or short circuit, sensor defective, connection cable demaged
Take actions for error repair
Check actuator and if necessary replace it, check connection cable and if necessary repaire or replace it
other error properties
System reaction: Warning, shutoff output, capacity reduction via second topcurve?
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 2
Measurement @ errortime: setpoint for output status

53 / 1081 / CSLpCD

Error description PREHEAT LAMP
Indicator lamp of air heater relay: the current drain measured by ECU is out of the target range or the maximum permissble temperature of the ECU component for power supply of the lamp is exceeded

Error codes
DEUTZ-Errorcode: 53
BlinkCode (short-long-short): 3 - 2 - 8
SPN: 1081
possible FMI:
   3: Voltage to high or short circuit to +Ubatt
   4: Voltage to low or short circuit to -Ubatt
   5: current to low or broken wire
   2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Cable break or short circuit, lamp defective, connection cable demaged
Take actions for error repair
Check cabling and load, check lamp and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: setpoint for output status

54 / 704 / CTLpCD

Error description TEMP. LAMP
Warning lamp for coolant temperature: the current drain measured by ECU is out of the target range or the maximum temperature of the ECU component for power supply of the lamp is exceeded

Error codes
DEUTZ-Errorcode: 54
BlinkCode (short-long-short): 1 - 2 - 3
SPN: 704
possible FMI:
   12. Errormode not identifiable
   12. Errormode not identifiable
   12. Errormode not identifiable
   12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Cable break or short circuit, lamp defective, connection cable demaged
Take actions for error repair
Check cabling and load, check lamp and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: setpoint for output status

55 / 110 / CTSCD

Error description ENG COOLANT TEMP.
Coolant temperature sensor: the voltage of the sensor measured by ECU is out of the target range; the coolant temperature calculated by ECU is implausible compared with the oil temperature or the received value via CAN is defective

Error codes
DEUTZ-Errorcode: 55
BlinkCode (short-long-short): 2 - 2 - 5
SPN: 110
possible FMI:
3: Voltage to high or short circuit to +Ubatt
4: Voltage to low or short circuit to -Ubatt
2: data stream is defective
2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, lamp defective, connection cable demaged

Take actions for error repair
Check cabling, sensor defect, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: default value

56 / 110 / CTSCDSysReac

Error description ENG COOLANT TEMP.
Coolant temperature: the coolant temperature calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 56
BlinkCode (short-long-short): 2 - 3 - 2
SPN: 110
possible FMI:
0: data valid, but above normal working area
0: data valid, but above normal working area
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
Outside target range with system reaction, cooling system not enough to be filled, clogged or demaged, cooling compressor dropped out, sensor defective, onnection cable demaged

Take actions for error repair
Check cycle cooling system and compressor, inspect cooling system and if necessary repair it, check cooling compressor and if necessary replace it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Advice: CTSCD_stSysReacReq
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

57 / 701 / Dummy1CD_Max

Error description RESERVE 2
Reserve output 1: the ECU detects a short circuit to battery

Error codes
DEUTZ-Errorcode: 57
BlinkCode (short-long-short): 1 - 0 - 0
SPN: 701
possible FMI:
12. Errormode not identifiable
12. Errormode not identifiable
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit to Ubatt (output 1), connection cable demaged

Take actions for error repair
Check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: shut off value

58 / 701 / Dummy1CD_Min

Error description RESERVE 2
Reserve output 1: the ECU detects a short circuit to ground

Error codes
 DEUTZ-Errorcode: 58
 BlinkCode (short-long-short): 1 - 0 - 0
 SPN: 701
 possible FMI:
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit to ground (output 1), connection cable demaged

Take actions for error repair
Check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: shut off value

59 / 701 / Dummy1CD_SigNpl

Error description RESERVE 2
Reserve output 1: the ECU detects no load or excess temperature of the ECU component for power supply of the connected components

Error codes
 DEUTZ-Errorcode: 59
 BlinkCode (short-long-short): 1 - 0 - 0
 SPN: 701
 possible FMI:
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or ECU internal error (output 1), connection cable demaged, connected components defective, parametering of the output inaccurate, ECU defective

Take actions for error repair
Check connection cable and if necessary repair or replace it, check parameters and if necessary correct it, replace ECU

other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: shut off value

60 / 702 / Dummy2CD_Max

Error description THRUST MODE
Reserve output 2: the ECU detects a short circuit to battery

Error codes
 DEUTZ-Errorcode: 60
 BlinkCode (short-long-short): 1 - 0 - 0
 SPN: 702
 possible FMI:
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit to Ubatt (output 2), onnection cable demaged

Take actions for error repair
Check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: shut off value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

61 / 702 / Dummy2CD_Min

Error description THRUST MODE
Reserve output 2: the ECU detects a short circuit to ground

Error codes
DEUTZ-Errorcode: 61
BlinkCode (short-long-short): 1 - 0 - 0
SPN: 702
possible FMI:
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Short circuit to ground (output 2), connection cable demaged
Take actions for error repair
Check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: shut off value

62 / 702 / Dummy2CD_SigNpl

Error description THRUST MODE
Reserve output 2: the ECU detects no load or excess temperature of the ECU component for power supply of the connected components

Error codes
DEUTZ-Errorcode: 62
BlinkCode (short-long-short): 1 - 0 - 0
SPN: 702
possible FMI:
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Cable break or ECU internal error (output 2), connection cable demaged, connected components defective, parametering of the output inaccurate, ECU defective
Take actions for error repair
Check connection cable and if necessary repair or replace it, check parameters and if necessary correct it, replace ECU
other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: shut off value

69 / 2791 / EGRCD_Max

Error description EGR ACTUATOR
Actuator of the external EGR valve: the ECU detects a short circuit to battery

Error codes
DEUTZ-Errorcode: 69
BlinkCode (short-long-short): 4 - 1 - 4
SPN: 2791
possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Short circuit to Ubatt, connection cable demaged
Take actions for error repair
Check cabling, sensor defect, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, shutoff output, power reduction via second topcurve?
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: shut off value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

70 / 2791 / EGRCD_Min

Error description EGR ACTUATOR
Actuator of the external EGR valve: the ECU detects a short circuit to ground

Error codes
DEUTZ-Errorcode: 70
BlinkCode (short-long-short): 4 - 1 - 4
SPN: 2791
possible FMI:
    12. Errormode not identifiable
    4: Voltage to low or short circuit to -Ubatt
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit to ground, connection cable demaged

Take actions for error repair
Check cabling, sensor defect, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, shutoff output, power reduction via second topcurve?
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: shut off value

71 / 2791 / EGRCD_SigNpl

Error description EGR ACTUATOR
Actuator of the external EGR valve: the ECU detects no load or excess temperature of the ECU component for power supply of the connected components

Error codes
DEUTZ-Errorcode: 71
BlinkCode (short-long-short): 4 - 1 - 5
SPN: 2791
possible FMI:
    12. Errormode not identifiable
    12. Errormode not identifiable
    5: current to low or broken wire
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or excess temperature, sensor defective, connection cable demaged

Take actions for error repair
Check cabling, sensor defect, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, shutoff output, power reduction via second topcurve?
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: shut off value

72 / 2791 / EGRCDIntEGR

Error description EGR ACTUATOR
Actuator of the internal EGR valve: the ECU detects no load or excess temperature of the ECU component for power supply of the actuator

Error codes
DEUTZ-Errorcode: 72
BlinkCode (short-long-short): 4 - 1 - 6
SPN: 2791
possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    5: current to low or broken wire
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break, short circuit or excess temperature, sensor defective, connection cable demaged

Take actions for error repair
Check cabling, sensor defect, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, shutoff output, power reduction via second topcurve?
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: shut off value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

74 / 923 / EngCDTrqCalcOut

Error description ENGINE POWER OUT
Output with PWM signal of the engine power: the current drain measured by ECU is out of the target range or the maximum permissible temperature of the ECU component to control the output is exceeded

Error codes
DEUTZ-Errorcode: 74
BlinkCode (short-long-short): 5 - 5 - 5
SPN: 923
possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    5: current to low or broken wire
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Engine Power output: cable break or short circuit, output defective, connection cable demaged
Take actions for error repair
Check cabling, sensor defect, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: shut off value

75 / 190 / EngMBackUp

Error description ENGINE SPEED
Crankschaft speed sensor: the ECU receives no signal and uses the signal from camschaft speed sensor as alternative to calculate the engine speed

Error codes
DEUTZ-Errorcode: 75
BlinkCode (short-long-short): 2 - 1 - 2
SPN: 190
possible FMI:
    12: Errormode not identifiable
    12: Defective component
    12: Errormode not identifiable
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Engine running only with cam-shaft speed signal, transmitter defective, connection cable demaged
Take actions for error repair
Check cabling of crankschaft sensor, check crankschaft sensor and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, calculation of injektion initation point will be incorrect
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: -

76 / 190 / EngMCaS1

Error description ENGINE SPEED
Camschaft speed sensor: the ECU receives no signal or the signal is defective

Error codes
DEUTZ-Errorcode: 76
BlinkCode (short-long-short): 2 - 1 - 2
SPN: 190
possible FMI:
    12: Defective component
    8: unusual frequency, pulse or period.
    12: Errormode not identifiable
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Speed signal from cam-shaft defectiveiv or missing, transmitter defective, connection cable demaged, parametering of the sensor wheel inaccurate
Take actions for error repair
Check cabling, check camschaft sensor and if necessary replace it, check configuration of sensor wheel, check connection cable and if necessary repair or replace it, check parameters and if necessary correct them
other error properties
System reaction: Warning, difficult start
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: 0

77 / 190 / EngMCrS1

Error description ENGINE SPEED
Crankshaft speed sensor: the ECU receives no signal or the signal is defective

Error codes
DEUTZ-Errorcode: 77
BlinkCode (short-long-short): 2 - 1 - 2
SPN: 190
possible FMI:
  12: Defective component
  8: unusual frequency, pulse or period.
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Speed signal from crankshaft defectiveiv or missing, transmitter defective, connection cable demaged, sensor wheel installed inaccurately

Take actions for error repair
Check cabling, check camshaft sensor and if necessary replace it, check configuration of sensor wheel, check connection cable and if necessary repair or replace it, check the position of sensor wheel and if necessary correct it

other error properties
System reaction: Warning, power reduction via second topcurve
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: 0

78 / 190 / EngMOfsCaSCrS

Error description ENGINE SPEED
Speed sensor of crankschaft and camschaft: the received signals are out of phase

Error codes
DEUTZ-Errorcode: 78
BlinkCode (short-long-short): 2 - 1 - 3
SPN: 190
possible FMI:
  2: data stream is defective
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Speed signals of crank-shaft and cam-shaft are phase-shifted, sensor wheel installed in wrong position, sensor wrong wired

Take actions for error repair
Check position from crankshaft sensor wheel to camschaft sensor wheel, polarisation crankschaft or camschaft sensor, check position of sensor wheel and if necessary correct it, check cabling and if necessary correct it

other error properties
System reaction: Warning, not possible to start engine
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: -

79 / 190 / EngPrtSysReacFOC

Error description ENGINE SPEED
Engine speed: the engine speed calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 79
BlinkCode (short-long-short): 2 - 1 - 4
SPN: 190
possible FMI:
  0: data valid, but above normal working area
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows blinking. Entry in errormemory.

Possible reason for error
Engine overspeed detected with system reaction, maximum engine speed exceeded

Take actions for error repair

other error properties
System reaction:
Behaviour error lamp: blinking
Selfhealing: no
Signal Priority: 5
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501   P492_: 213
P491_: 220, 310, 400, 501   P513_: 214, 300

80 / 190 / EngPrtSysReacORC

Error description ENGINE SPEED
Engine speed: under overrun conditions, the engine speed calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 80
BlinkCode (short-long-short): 2 - 1 - 4
SPN: 190
possible FMI:
    14: Special Instructions
    12: Errormode not identifiable
    12: Errormode not identifiable
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Overrun conditions detected with system reaction, maximum engine speed exceeded
Take actions for error repair
other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

81 / 703 / ESLpCD

Error description ENG. RUNNING LAMP
Indicator lamp for engine running: the current drain measured by ECU is out of the target range or the maximum permissible temperature of the ECU component for power supply of the lamp is exceeded

Error codes
DEUTZ-Errorcode: 81
BlinkCode (short-long-short): 1 - 4 - 2
SPN: 703
possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    5: current to low or broken wire
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Cable break or internal ECU error, lamp defective, connection cable demaged
Take actions for error repair
Check cabling and load, check lamp and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: shut off value

82 / 1074 / ExFICD

Error description BRAKE FLAP ACTUATOR
Engine brake flap actuator: the current drain measured by ECU is out of the target range or the maximum permissible temperature of the ECU component for power supply of the actuator is exceeded

Error codes
DEUTZ-Errorcode: 82
BlinkCode (short-long-short): 2 - 1 - 9
SPN: 1074
possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    5: current to low or broken wire
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Engine brake flap actuator: cable break or short circuit, sensor defective, connection cable demaged
Take actions for error repair
Check cabling, sensor defect, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 2
Measurement @ errortime: shut off value

DTC-List
Diagnosis- and Errorcodes

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

83 / 975 / FanCD

Error description FAN ACTUATOR
Fan power stage: the current drain measured by ECU is out of the target range or the maximum permissible temperature of the ECU component for power supply of the actuator is exceeded

Error codes
  DEUTZ-Errorcode: 83
  BlinkCode (short-long-short): 2 - 3 - 8
  SPN: 975
  possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    5: current to low or broken wire
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
cable break or short circuit, sensor defective, connection cable demaged

Take actions for error repair
Check cabling, sensor defect, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 2
Measurement @ errortime: Sollwert

85 / 1639 / FanCDEval

Error description
Fan speed sensor: the current drain measured by ECU is out of the target range

Error codes
  DEUTZ-Errorcode: 85
  BlinkCode (short-long-short): 2 - 3 - 8
  SPN: 1639
  possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Sensor defective, connection cable demaged, fan speed outside the target range

Take actions for error repair
Check sensor and if necessary replace it, check connectionn cable and if necessary repair or replace it, check fan

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: actual value

86 / 523602 / FanCDSysReac

Error description FAN SPEED
Fan speed: the fan speed calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
  DEUTZ-Errorcode: 86
  BlinkCode (short-long-short): 2 - 3 - 8
  SPN: 523602
  possible FMI:
    2: data stream is defective
    2: data stream is defective
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Above target range with system reaction

Take actions for error repair

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

87 / 97 / FIFCD

Error description WATER IN FUEL
Fuel filter water level sensor: the voltage of sensor measured by
ECU is out of the target range

Error codes
  DEUTZ-Errorcode: 87
  BlinkCode (short-long-short): 2 - 2 - 8
  SPN: 97
  possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
cable break or short circuit, sensor defective, connection cable
demaged

Take actions for error repair
Check cabling, if sensor not working, check sensor and if
necessary replace it, check connection cable and if necessary
repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: default value

89 / 97 / FIFCD_WtLvl

Error description WATER IN FUEL
Water in fuel: the water level calculated by ECU is above the
allowed limit value

Error codes
  DEUTZ-Errorcode: 89
  BlinkCode (short-long-short): 2 - 2 - 8
  SPN: 97
  possible FMI:
    12: Defective component
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Above target range, excess of maximum permissible water level
in fuel filter

Take actions for error repair
flush water seperator

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: actual value

90 / 94 / FIPSCD

Error description FUEL PRE PRESS.
Low fuel pressure sensor: the voltage of sensor measured by
ECU is out of the target range

Error codes
  DEUTZ-Errorcode: 90
  BlinkCode (short-long-short): 2 - 1 - 6
  SPN: 94
  possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
cable break or short circuit, sensor defective, connection cable
demaged

Take actions for error repair
Check cabling, if sensor not working, check sensor and if
necessary replace it, check connection cable and if necessary
repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

referrenced ECU-Software
P490_: 220, 310, 501 P492_: 213
P491_: 220, 310, 400, 501 P513_: 214, 300

91 / 94 / FIPSCDSysReac

Error description FUEL PRE PRESS.
Low fuel pressure: the low fuel pressure calculated by ECU is underneath the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 91
BlinkCode (short-long-short): 2 - 1 - 6
SPN: 94
possible FMI:
    2: data stream is defective
    2: data stream is defective
    2: data stream is defective
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Below target range with system reaction, interruption in cycling process of low fuel pressure (for example, fuel pump defective), sensor defective, connection cable demaged
Take actions for error repair
Check low fuel pressure loop system, Check fuel pump, inspect fuel system and if necessary repair it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Advice: FLPSCD_stSysReacReq
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

94 / 523239 / FrmMngDecV1

Error description CAN ERROR DEC-V1
CAN message DecV1 (Pseudo Pedal): the message can not be received by ECU or the received value is above the target range
Error codes
DEUTZ-Errorcode: 94
BlinkCode (short-long-short): 5 - 2 - 6
SPN: 523239
possible FMI:
    12: Defective component
    12: Defective component
    12: Defective component
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Missing or value above target range (message "DecV1" = pseudo pedal), CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate
Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range
other error properties
System reaction: Warning, changing to substitute values according to customers configuration.
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: default value

95 / 523240 / FrmMngFunModCtl

Error description CAN ERROR FUNMODCTL
CAN message FunModCtl (Function Mode Control): the message can not be received by ECU
Error codes
DEUTZ-Errorcode: 95
BlinkCode (short-long-short): 5 - 2 - 7
SPN: 523240
possible FMI:
    12: Defective component
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Missing message "FunModCtl" = function mode control, CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate
Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range
other error properties
System reaction: Warning, changing to substitute values according to customers configuration.
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: default valuee

referrenced ECU-Software
P490_ : 220, 310, 501   P492_ : 213
P491_ : 220, 310, 400, 501   P513_ : 214, 300

106 / 523212 / FrmMngTOEngPrt

Error description CAN ERROR ENGPRT
CAN message EngPrt (Engine Protection): the message can not be received by ECU

Error codes
   DEUTZ-Errorcode: 106
   BlinkCode (short-long-short): 3 - 3 - 3
   SPN: 523212
   possible FMI:
      12: Defective component
      12. Errormode not identifiable
      12: Defective component
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Missing message "EngPrt" = engine protection, CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range

other error properties
System reaction: Warning. Hold last value.
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: default value

110 / 523216 / FrmMngTOPrHtEnCmd

Error description CAN ERROR PRHTENCMD
CAN message PrHtEnCmd (Preheat and Engine Command): the message received can not be received by ECU

Error codes
   DEUTZ-Errorcode: 110
   BlinkCode (short-long-short): 3 - 3 - 7
   SPN: 523216
   possible FMI:
      12. Errormode not identifiable
      12. Errormode not identifiable
      12: Defective component
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Missing message "PrHtEnCmd" = preheat and engine command; CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range

other error properties
System reaction: Warning, changing to substitute values according to customers configuration.
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: default valuee

112 / 523218 / FrmMngTORxCCVS

Error description CAN ERROR RXCCVS
CAN message RxCCVS (Cruise Control): the message can not be received by ECU

Error codes
   DEUTZ-Errorcode: 112
   BlinkCode (short-long-short): 1 - 1 - 1
   SPN: 523218
   possible FMI:
      12. Errormode not identifiable
      12. Errormode not identifiable
      12: Defective component
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Missing message "RxCCVS" = cruise control; CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: default valuee

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

113 / 523604 / FrmMngTORxEngTemp

Error description CAN ERROR RxEngTemp
CAN message RxEngTemp (Engine Temperature): the message can not be received by ECU

Error codes
DEUTZ-Errorcode: 113
BlinkCode (short-long-short): 1 - 1 - 2
SPN: 523604
possible FMI:
    12: Defective component
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Missing message "RxEngTemp" = engine temperature, CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate
Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range
other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: default value

117 / 523238 / FrmMngTOSwtOut

Error description CAN ERROR SWTOUT
CAN message SwtOut (Switching Output): the message can not be received by ECU

Error codes
DEUTZ-Errorcode: 117
BlinkCode (short-long-short): 1 - 1 - 5
SPN: 523238
possible FMI:
    12: Defective component
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Missing message "SwtOut" = switch outputs, CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate
Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range
other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: default valuee

118 / 523222 / FrmMngTOTCO1

Error description CAN ERROR TCO1
CAN message "TCO1" (Speedo Signal): the message can not be received by ECU

Error codes
DEUTZ-Errorcode: 118
BlinkCode (short-long-short): 1 - 1 - 6
SPN: 523222
possible FMI:
    12. Errormode not identifiable
    12. Errormode not identifiable
    12: Defective component
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Missing message "TCO1" = speedo signal, CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate
Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range
other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: default value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

120 / 523605 / FrmMngTOTSC1AE

Error description CAN ERROR TSC1-AE
CAN message TSC1-AE (Torque/Speed Control #1 from Automatic Traction Control to Engine); the message can not be received by ECU

Error codes
DEUTZ-Errorcode: 120
BlinkCode (short-long-short): 1 - 1 - 8
SPN: 523605
possible FMI:
    12: Defective component
    12: Defective component
    12: Errormode not identifiable
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Missing message "TSC1-AE", CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range

other error properties
System reaction: Warning, changing to substitute values according to priority chain.
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

121 / 523606 / FrmMngTOTSC1AR

Error description CAN ERROR TSC1-AR
CAN message TSC1-AR (Torque/Speed Control #1 from Automatic Traction Control to Retarder); the message can not be received by ECU

Error codes
DEUTZ-Errorcode: 121
BlinkCode (short-long-short): 1 - 1 - 9
SPN: 523606
possible FMI:
    12: Defective component
    12: Defective component
    12: Errormode not identifiable
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Missing message "TSC1-AR", CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range

other error properties
System reaction: Warning, changing to substitute values according to priority chain.
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

122 / 523607 / FrmMngTOTSC1DE

Error description CAN ERROR TSC1-DE
CAN message TSC1-DE (Torque/Speed Control #1 from Driveline to Engine); the message can not be received by ECU

Error codes
DEUTZ-Errorcode: 122
BlinkCode (short-long-short): 1 - 1 - 8
SPN: 523607
possible FMI:
    12: Defective component
    12: Defective component
    12: Errormode not identifiable
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Missing message "TSC1-DE", CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range

other error properties
System reaction: Warning, changing to substitute values according to priority chain.
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

123 / 523608 / FrmMngTOTSC1DR

Error description CAN ERROR TSC1-DR
CAN message TSC1-DR (Torque/Speed Control #1 from Driveline to Retarder): the message can not be received by ECU

Error codes
DEUTZ-Errorcode: 123
BlinkCode (short-long-short): 1 - 1 - 9
SPN: 523608
possible FMI:
  12: Defective component
  12: Defective component
  12: Errormode not identifiable
  12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Missing message "TSC1-DR", CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range

other error properties
System reaction: Warning, changing to substitute values according to priority chain.
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

124 / 523609 / FrmMngTOTSC1PE

Error description CAN ERROR TSC1-PE
CAN message TSC1-PE (Torque/Speed Control #1 from Power Take Off to Engine): the message can not be received by ECU

Error codes
DEUTZ-Errorcode: 124
BlinkCode (short-long-short): 1 - 1 - 8
SPN: 523609
possible FMI:
  12: Defective component
  12: Defective component
  12: Errormode not identifiable
  12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Missing message "TSC1-PE", CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range

other error properties
System reaction: Warning, changing to substitute values according to priority chain.
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

125 / 898 / FrmMngTOTSC1TE

Error description CAN ERROR TSC1-TE
CAN message TSC1-TE (Torque/Speed Control #1 from Traction Control to Engine): the message can not be received by ECU

Error codes
DEUTZ-Errorcode: 125
BlinkCode (short-long-short): 1 - 1 - 8
SPN: 898
possible FMI:
  12: Defective component
  12: Defective component
  12: Errormode not identifiable
  12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Missing message "TSC1-TE", CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range

other error properties
System reaction: Warning, changing to substitute values according to priority chain.
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

referrenced ECU-Software
P490_ : 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

126 / 520 / FrmMngTOTSC1TR

Error description CAN ERROR TSC1-TR
CAN message TSC1-TR (Torque/Speed Control #1 from Traction Control to Retarder): the message can not be received by ECU
Error codes
   DEUTZ-Errorcode: 126
   BlinkCode (short-long-short): 1 - 1 - 9
   SPN: 520
   possible FMI:
      12: Defective component
      12: Defective component
      12. Errormode not identifiable
      12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Missing message "TSC1-TR", CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate
Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range
other error properties
System reaction: Warning, changing to substitute values according to priority chain.
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

127 / 523610 / FrmMngTOTSC1VE

Error description CAN ERROR TSC1-VE
CAN message TSC1-VE (Torque/Speed Control #1 from Vehicle Control to Engine): the message can not be received by ECU
Error codes
   DEUTZ-Errorcode: 127
   BlinkCode (short-long-short): 1 - 1 - 8
   SPN: 523610
   possible FMI:
      12: Defective component
      12: Defective component
      12. Errormode not identifiable
      12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Missing message "TSC1-VE", CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate
Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range
other error properties
System reaction: Warning, changing to substitute values according to priority chain.
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

128 / 523611 / FrmMngTOTSC1VR

Error description CAN ERROR TSC1-VR
CAN message TSC1-VR (Torque/Speed Control #1 from Vehicle Control to Retarder): the message can not be received by ECU
Error codes
   DEUTZ-Errorcode: 128
   BlinkCode (short-long-short): 1 - 1 - 9
   SPN: 523611
   possible FMI:
      12: Defective component
      12: Defective component
      12. Errormode not identifiable
      12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Missing message "TSC1-VR", CAN bus wrong cabled, wiring is demaged, receiver (sender of the message) work inaccurately, parametering inaccurate
Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range
other error properties
System reaction: Warning, changing to substitute values according to priority chain.
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

131 / 523500 / FrmMngTxTO

Error description CAN MESS. TIMEOUT
CAN message: the ECU detects a timeout for one or more posted message

Error codes
  DEUTZ-Errorcode: 131
  BlinkCode (short-long-short): 2 - 7 - 1
  SPN: 523500
  possible FMI:
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Defective component
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Timeout for sent messages

Take actions for error repair

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: -

133 / 174 / FTSCD

Error description FUEL TEMP. SENSOR
Fuel temperature sensor: the voltage measured by ECU is out of the target range

Error codes
  DEUTZ-Errorcode: 133
  BlinkCode (short-long-short): 2 - 2 - 7
  SPN: 174
  possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Fuel temp. sensor: cable break or short circuit, sendor defective, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: default value

134 / 174 / FTSCDSysReac

Error description FUEL TEMP. SENSOR
Fuel temperature: the fuel temperature calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
  DEUTZ-Errorcode: 134
  BlinkCode (short-long-short): 2 - 3 - 7
  SPN: 174
  possible FMI:
    0: data valid, but above normal working area
    0: data valid, but above normal working area
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
Above target range with system reaction, interruption of fuel loop (for example, rail pressure relief valve defective), sensor defective, connection cable demaged

Take actions for error repair
Check fuel system and if necessary repair it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Advice: FTSCD_stSysReacReq
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

136 / 523618 / GOTSCD

Error description CUSTOMER TEMPSENS 1
Customer specific temperature sensor 1: the voltage of sensor measured by ECU is out of the target range or the received value of temperature via CAN is defective

Error codes
DEUTZ-Errorcode: 136
BlinkCode (short-long-short): 1 - 3 - 3
SPN: 523618
possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  2: data stream is defective
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Cable break or short circuit (sensor 1), sensor defective, connection cable demaged, CAN bus wrong cabled, wiring demaged, receiver (sender of the message) work inaccurately, parametering inaccurate
Take actions for error repair
Customer specific bugfixing, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it, Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN fun
other error properties
System reaction: Warning, substitute value (customer specific)
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: default value

137 / 523619 / GOTSCDSysReac

Error description
Customer specific temperature 1: the temperature calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 137
BlinkCode (short-long-short): 1 - 3 - 3
SPN: 523619
possible FMI:
  2: data stream is defective
  2: data stream is defective
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.
Possible reason for error
Outside target range with system reaction (temperature 1), dependant on the application
Take actions for error repair
Customer specific bugfixing, denpendant on application
other error properties
System reaction: Advice: GOTSCD_stSysReacReq
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

138 / 29 / HdThrt

Error description THROTTLE 2
Hand throttle pedal sensor: the voltage measured by ECU is out of the target range or the calculated pedal position is implausible compared with the position of accelerator pedal 1

Error codes
DEUTZ-Errorcode: 138
BlinkCode (short-long-short): 1 - 2 - 6
SPN: 29
possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  12. Errormode not identifiable
  2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Cable break or short circuit, signal implausible compared to signal of idle sensor, transmitter defective, connection cable demaged
Take actions for error repair
Check cabling, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, changing to substitute values according to priority chain or limp home
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

139 / 1638 / HOTSCD

Error description CUSTOMER TEMPSENS 2
Customer specific temperature sensor 2: the voltage of sensor measured by ECU is out of the target range or the received value of temperature via CAN is defective

Error codes
 DEUTZ-Errorcode: 139
 BlinkCode (short-long-short): 3 - 1 - 4
 SPN: 1638
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  12: Defective component
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit (sensor 2), sensor defective, connection cable demaged, CAN bus wrong cabled, wiring demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Customer specific bugfixing, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it, Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN fun

other error properties
System reaction: Warning, substitute value (customer specific)
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: default value

140 / 1638 / HOTSCDSysReac

Error description CUSTOMER TEMPSENS 2
Customer specific temperature 2: the temperature calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
 DEUTZ-Errorcode: 140
 BlinkCode (short-long-short): 3 - 1 - 4
 SPN: 1638
 possible FMI:
  2: data stream is defective
  2: data stream is defective
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
Outside target range with system reaction (temperature 2), dependant on the application

Take actions for error repair
Customer specific bugfixing, denpendant on application

other error properties
System reaction: Advice: HOTSCD_stSysReacReq
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

141 / 523617 / HWEMonCom

Error description INTERNAL COMM. ERROR
Internal hardware monitoring: the ECU detects a communication distrubance

Error codes
 DEUTZ-Errorcode: 141
 BlinkCode (short-long-short): 5 - 5 - 5
 SPN: 523617
 possible FMI:
  12: Defective component
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Communication with chip CJ 940 disturbed, ECU defective

Take actions for error repair
If cannot delete the error, change ECU

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: -

142 / 630 / HWEMonEEPROM

Error description EEPROM MEM. ACCESS
Internal hardware monitoring: the ECU finds an error during the access to ist EEPROM memory or works with an alternative value

Error codes
DEUTZ-Errorcode: 142
BlinkCode (short-long-short): 2 - 8 - 1
SPN: 630
possible FMI:
    12. Errormode not identifiable
    12: Defective component
    12: Defective component
    12: Defective component

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Error during EEPROM memory access or EEPROM works with substitute value, programming error, ECU defective
Take actions for error repair
If not programmed, EEPROM is defect --> ECU is defect, reprogram ECU and if necessary replace it
other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: -

143 / 523612 / HWEMonRcyLocked

Error description INT. RECOVERY
Internal hardware monitoring: the CPU of the ECU is reset and the cause is logged internally; no item will be created in error memory

Error codes
DEUTZ-Errorcode: 143
BlinkCode (short-long-short): 5 - 5 - 5
SPN: 523612
possible FMI:
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable
    14: Special Instructions

Errordetection
Errorlamp shows blinking. Entry in errormemory.
Possible reason for error
A recovery occurred which is stored as protected
Take actions for error repair
Recoverey occured which is stored as protected
With parameter HWEMon_numRexxxxxx the recovery nummer and the subsequent position can be identified. See especially SW-Doku _rcy_auto.pdf
other error properties
System reaction: Recovery of ECU
Behaviour error lamp: blinking
Selfhealing: no
Signal Priority: 5
Measurement @ errortime: -

144 / 523612 / HWEMonRcySuppressed

Error description INT. RECOVERY
Internal hardware monitoring: the CPU of the ECU is reset and the cause is logged internally; no item will be created in error memory

Error codes
DEUTZ-Errorcode: 144
BlinkCode (short-long-short): 5 - 5 - 5
SPN: 523612
possible FMI:
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable
    14: Special Instructions

Errordetection
Errorlamp shows blinking. Entry in errormemory.
Possible reason for error
A recovery occurred which is not stored
Take actions for error repair
Recoverey occured which is stored as protected
With parameter HWEMon_numRexxxxxx the recovery nummer and the subsequent position can be identified. See especially SW-Doku _rcy_auto.pdf
other error properties
System reaction: Warning, shown at error path
Behaviour error lamp: blinking
Selfhealing: no
Signal Priority: 5
Measurement @ errortime: -

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

145 / 523612 / HWEMonRcyVisible

Error description INT. RECOVERY
Internal hardware monitoring: the CPU of the ECU is reset and an item will be created in error memory

Error codes
DEUTZ-Errorcode: 145
BlinkCode (short-long-short): 5 - 5 - 5
SPN: 523612
possible FMI:
12. Errormode not identifiable
12. Errormode not identifiable
12. Errormode not identifiable
14: Special Instructions

Errordetection
Errorlamp shows blinking. Entry in errormemory.

Possible reason for error
A recovery occurred which is visible in the error memory

Take actions for error repair
Recoverey occured which is stored as protected
With parameter HWEMon_numRexxxxxx the recovery nummer and the subsequent position can be identified. See especially SW-Doku _rcy_auto.pdf

other error properties
System reaction: Recovery of ECU
Behaviour error lamp: blinking
Selfhealing: no
Signal Priority: 5
Measurement @ errortime: -

146 / 523612 / HWEMonUMaxSupply

Error description INT. RECOVERY
Internal hardware monitoring: the ECU detects an excess of the target range for the power supply of ist communication module

Error codes
DEUTZ-Errorcode: 146
BlinkCode (short-long-short): 5 - 5 - 5
SPN: 523612
possible FMI:
3: Voltage to high or short circuit to +Ubatt
12. Errormode not identifiable
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Overvoltage at CJ940, power supply voltage too high, ECU defective

Take actions for error repair
Check working voltage and if necessary correct it, Check ECU and if necessary replace it

other error properties
System reaction: Power stage shut off
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: -

147 / 523612 / HWEMonUMinSupply

Error description INT. RECOVERY
Internal hardware monitoring: the ECU detects an undershooting of the target range for the power supply of ist communication module

Error codes
DEUTZ-Errorcode: 147
BlinkCode (short-long-short): 5 - 5 - 5
SPN: 523612
possible FMI:
12. Errormode not identifiable
4: Voltage to low or short circuit to –Ubatt
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Undervoltage at CJ940, power supply voltage too low, ECU defective

Take actions for error repair
Check working voltage and if necessary correct it, Check ECU and if necessary replace it

other error properties
System reaction: Power stage shut off
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: -

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

149 / 105 / IATSCD

Error description CHARGE AIR TEMP.
Charge air temperature sensor: the voltage of sensor measured by ECU is out of the target range or the received value of temperature via CAN is defective

Error codes
DEUTZ-Errorcode: 149
BlinkCode (short-long-short): 1 - 2 - 8
SPN: 105
possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  2: data stream is defective
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, sensor defective, connection cable demaged, CAN bus wrong cabled, wiring demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check cabling, LDF6T-sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it, Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, c

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: default value

150 / 105 / IATSCDSysReac

Error description CHARGE AIR TEMP.
Charge air temperature: die charge air temperature calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 150
BlinkCode (short-long-short): 2 - 3 - 3
SPN: 105
possible FMI:
  0: data valid, but above normal working area
  0: data valid, but above normal working area
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
Above target range with system reaction, air system demaged, sensor defective, connection cable demaged

Take actions for error repair
Check construction of LDF6T, check suction parts, check air system and if necessary repair it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Advice: IATSCD_stSysReacReq
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

153 / 523350 / InjVlvBnk1A

Error description INJECTOR BANK A
Injector cylinder bank 1: the current drain measured by ECU is above the target range

Error codes
DEUTZ-Errorcode: 153
BlinkCode (short-long-short): 1 - 5 - 1
SPN: 523350
possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  13: out of calibrated range
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder bank 1), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, cylinder shut off
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

154 / 523351 / InjVlvBnk1B

Error description INJECTOR BANK A
Injector cylinder bank 1: the current drain measured by ECU is underneath the target range

Error codes
DEUTZ-Errorcode: 154
BlinkCode (short-long-short): 1 - 5 - 1
SPN: 523351
possible FMI:
13: out of calibrated range
13: out of calibrated range
5: current to low or broken wire
13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder bank 1), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, cylinder shut off
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

155 / 523352 / InjVlvBnk2A

Error description INJECTOR BANK B
Injector cylinder bank 2: the current drain measured by ECU is above the target range

Error codes
DEUTZ-Errorcode: 155
BlinkCode (short-long-short): 1 - 5 - 2
SPN: 523352
possible FMI:
3: Voltage to high or short circuit to +Ubatt
4: Voltage to low or short circuit to -Ubatt
13: out of calibrated range
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder bank 2), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, cylinder shut off
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

156 / 523353 / InjVlvBnk2B

Error description INJECTOR BANK B
Injector cylinder bank 2: the current drain measured by ECU is underneath the target range

Error codes
DEUTZ-Errorcode: 156
BlinkCode (short-long-short): 1 - 5 - 2
SPN: 523353
possible FMI:
13: out of calibrated range
13: out of calibrated range
5: current to low or broken wire
13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder bank 2), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, cylinder shut off
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

157 / 523354 / InjVlvChipA

Error description PWR. INJ. BANK B
Internal hardware monitoring: the ECU detects an error of ist injector high current output

Error codes
DEUTZ-Errorcode: 157
BlinkCode (short-long-short): 1 - 5 - 3
SPN: 523354
possible FMI:
3: Voltage to high or short circuit to +Ubatt
2: data stream is defective
14: Special Instructions
12: Defective component

Errordetection
Errorlamp shows blinking. Entry in errormemory.

Possible reason for error
High power stage Injector A, ECU defective

Take actions for error repair
If error is not removable, change ECU

other error properties
System reaction: Warninig, outputs shut off
Behaviour error lamp: blinking
Selfhealing: no
Signal Priority: 5
Measurement @ errortime: actual value

158 / 523355 / InjVlvChipB

Error description PWR. INJ. BANK B
Internal hardware monitoring: the ECU detects a disturbance in its injector high current output

Error codes
DEUTZ-Errorcode: 158
BlinkCode (short-long-short): 1 - 5 - 3
SPN: 523355
possible FMI:
12: Defective component
12: Defective component
12: Defective component
12: Defective component

Errordetection
Errorlamp shows blinking. Entry in errormemory.

Possible reason for error
High power stage Injector B, ECU defective

Take actions for error repair
If error is not removable, change ECU

other error properties
System reaction: Warninig, outputs shut off
Behaviour error lamp: blinking
Selfhealing: no
Signal Priority: 5
Measurement @ errortime: actual value

159 / 651 / InjVlvCyl1A

Error description INJECTOR 1
Injector 1: the current drain measured by ECU is above the target range

Error codes
DEUTZ-Errorcode: 159
BlinkCode (short-long-short): 1 - 5 - 4
SPN: 651
possible FMI:
3: Voltage to high or short circuit to +Ubatt
13: out of calibrated range
4: Voltage to low or short circuit to -Ubatt
12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder 1), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

160 / 651 / InjVlvCyl1B

Error description INJECTOR 1
Injector 1: the current drain measured by ECU is underneath the target range

Error codes
 DEUTZ-Errorcode: 160
 BlinkCode (short-long-short): 1 - 5 - 4
 SPN: 651
 possible FMI:
  13: out of calibrated range
  13: out of calibrated range
  5: current to low or broken wire
  13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder 1), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

161 / 652 / InjVlvCyl2A

Error description INJECTOR 2
Injector 2: the current drain measured by ECU is above the target range

Error codes
 DEUTZ-Errorcode: 161
 BlinkCode (short-long-short): 1 - 5 - 5
 SPN: 652
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  13: out of calibrated range
  4: Voltage to low or short circuit to -Ubatt
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder 2), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

162 / 652 / InjVlvCyl2B

Error description INJECTOR 2
Injector 2: the current drain measured by ECU is underneath the target range

Error codes
 DEUTZ-Errorcode: 162
 BlinkCode (short-long-short): 1 - 5 - 5
 SPN: 652
 possible FMI:
  13: out of calibrated range
  13: out of calibrated range
  5: current to low or broken wire
  13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder 2), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

163 / 653 / InjVlvCyl3A

Error description INJECTOR 3

Injector 3: the current drain measured by ECU is above the target range

Error codes
   DEUTZ-Errorcode: 163
   BlinkCode (short-long-short): 1 - 5 - 6
   SPN: 653
   possible FMI:
      3: Voltage to high or short circuit to +Ubatt
      13: out of calibrated range
      4: Voltage to low or short circuit to -Ubatt
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder 3), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

164 / 653 / InjVlvCyl3B

Error description INJECTOR 3

Injector 3: the current drain measured by ECU is underneath the target range

Error codes
   DEUTZ-Errorcode: 164
   BlinkCode (short-long-short): 1 - 5 - 6
   SPN: 653
   possible FMI:
      13: out of calibrated range
      13: out of calibrated range
      5: current to low or broken wire
      13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder 3), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

165 / 654 / InjVlvCyl4A

Error description INJECTOR 4

Injector 4: the current drain measured by ECU is above the target range

Error codes
   DEUTZ-Errorcode: 165
   BlinkCode (short-long-short): 1 - 6 - 1
   SPN: 654
   possible FMI:
      3: Voltage to high or short circuit to +Ubatt
      13: out of calibrated range
      4: Voltage to low or short circuit to -Ubatt
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder 4), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501   P492_: 213
P491_: 220, 310, 400, 501   P513_: 214, 300

166 / 654 / InjVlvCyl4B

Error description INJECTOR 4

Injector 4: the current drain measured by ECU is underneath the target range

Error codes
  DEUTZ-Errorcode: 166
  BlinkCode (short-long-short): 1 - 6 - 1
  SPN: 654
  possible FMI:
        13: out of calibrated range
        13: out of calibrated range
        5: current to low or broken wire
        13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder 4), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

167 / 655 / InjVlvCyl5A

Error description INJECTOR 5

Injector 5: the current drain measured by ECU is above the target range

Error codes
  DEUTZ-Errorcode: 167
  BlinkCode (short-long-short): 1 - 6 - 2
  SPN: 655
  possible FMI:
        3: Voltage to high or short circuit to +Ubatt
        13: out of calibrated range
        4: Voltage to low or short circuit to -Ubatt
        12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder 5), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

168 / 655 / InjVlvCyl5B

Error description INJECTOR 5

Injector 5: the current drain measured by ECU is underneath the target range

Error codes
  DEUTZ-Errorcode: 168
  BlinkCode (short-long-short): 1 - 6 - 2
  SPN: 655
  possible FMI:
        13: out of calibrated range
        13: out of calibrated range
        5: current to low or broken wire
        13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder 5), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

referrenced ECU-Software
P490_ : 220, 310, 501
P491_: 220, 310, 400, 501

P492_ : 213
P513_: 214, 300

169 / 656 / InjVlvCyl6A

Error description INJECTOR 6
Injector 6: the current drain measured by ECU is above the target range

Error codes
DEUTZ-Errorcode: 169
BlinkCode (short-long-short): 1 - 6 - 3
SPN: 656
possible FMI:
3: Voltage to high or short circuit to +Ubatt
13: out of calibrated range
4: Voltage to low or short circuit to -Ubatt
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder 6), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

170 / 656 / InjVlvCyl6B

Error description INJECTOR 6
Injector 6: the current drain measured by ECU is underneath the target range

Error codes
DEUTZ-Errorcode: 170
BlinkCode (short-long-short): 1 - 6 - 3
SPN: 656
possible FMI:
13: out of calibrated range
13: out of calibrated range
5: current to low or broken wire
13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder 6), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

171 / 657 / InjVlvCyl7A

Error description INJECTOR 7
Injector 7: the current drain measured by ECU is above the target range

Error codes
DEUTZ-Errorcode: 171
BlinkCode (short-long-short): 1 - 6 - 4
SPN: 657
possible FMI:
3: Voltage to high or short circuit to +Ubatt
13: out of calibrated range
4: Voltage to low or short circuit to -Ubatt
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder 7), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

172 / 657 / InjVlvCyl7B

Error description INJECTOR 7
Injector 7: the current drain measured by ECU is underneath the target range

Error codes
DEUTZ-Errorcode: 172
BlinkCode (short-long-short): 1 - 6 - 4
SPN: 657
possible FMI:
13: out of calibrated range
13: out of calibrated range
5: current to low or broken wire
13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder 7), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

173 / 658 / InjVlvCyl8A

Error description INJECTOR 8
Injector 8: the current drain measured by ECU is above the target range

Error codes
DEUTZ-Errorcode: 173
BlinkCode (short-long-short): 1 - 6 - 5
SPN: 658
possible FMI:
3: Voltage to high or short circuit to +Ubatt
13: out of calibrated range
4: Voltage to low or short circuit to -Ubatt
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder 8), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

174 / 658 / InjVlvCyl8B

Error description INJECTOR 8
Injector 8: the current drain measured by ECU is underneath the target range

Error codes
DEUTZ-Errorcode: 174
BlinkCode (short-long-short): 1 - 6 - 5
SPN: 658
possible FMI:
13: out of calibrated range
13: out of calibrated range
5: current to low or broken wire
13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder 8), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, fuel injection failed, shut off wenn the number of active cylinders below minimum
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501   P492_: 213
P491_: 220, 310, 400, 501   P513_: 214, 300

175 / 523370 / InjVlvErrDet

Error description RAIL PRESS. MON. DISABLED
Rail pressure monitoring: the monitoring of the rail pressure will be deactivated by ECU because of the activation of the function "compression test" by user

Error codes
 DEUTZ-Errorcode: 175
 BlinkCode (short-long-short): 5 - 5 - 5
 SPN: 523370
 possible FMI:
  14: Special Instructions
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows . Entry in errormemory.
Possible reason for error
Compression test active: rail-pressure monitoring is going to be disabled
Take actions for error repair
not correct
other error properties
System reaction: Rail pressure monitoring disabled
Behaviour error lamp:
Selfhealing: -
Signal Priority: 1
Measurement @ errortime:

176 / 523615 / MeUnCD_ADC

Error description METERING UNIT
Fuel volume flow rate: the fuel volume rate calculated by ECU at outlet of the fuel metering unit is out of the target range

Error codes
 DEUTZ-Errorcode: 176
 BlinkCode (short-long-short): 1 - 3 - 5
 SPN: 523615
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Flow rate outside target range
Take actions for error repair
other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: actual value

177 / 523615 / MeUnCDNoLoad

Error description METERING UNIT
Valve at outlet of the fuel metering unit: the ECU detects no load or temperature excess of the ECU component for power supply of the valve

Error codes
 DEUTZ-Errorcode: 177
 BlinkCode (short-long-short): 1 - 3 - 5
 SPN: 523615
 possible FMI:
  12. Errormode not identifiable
  12. Errormode not identifiable
  5: current to low or broken wire
  12: Defective component

Errordetection
Errorlamp shows permanent light, 15s before shut off. Entry in errormemory.
Possible reason for error
wiring error or ECU output is switched off because of overtemperature, fuel metering unit defective, connection cable demaged
Take actions for error repair
Check cabling , if necessary check FCU, check fuel metering unit and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, max.extraction of FCU --> open rail pressure relief valve --> shut the engine off in about 5 minutes
Behaviour error lamp: permanent light, 15s before shut off
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

178 / 523615 / MeUnCDSCBat

Error description METERING UNIT
Valve at outlet of the fuel metering unit: the current drain measured by ECU is above the target range
Error codes
 DEUTZ-Errorcode: 178
 BlinkCode (short-long-short): 1 - 3 - 5
 SPN: 523615
 possible FMI:
  12: Defective component
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light, 15s before shut off. Entry in errormemory.
Possible reason for error
Short circuit to Ubatt, fuel metering unit defective, connection cable demaged
Take actions for error repair
Check cabling , if necessary check FCU, check fuel metering unit and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, rail pressure relief valve will open
Behaviour error lamp: permanent light, 15s before shut off
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: actual value

179 / 523615 / MeUnCDSCGnd

Error description METERING UNIT
Valve at outlet of the fuel metering unit: the current drain measured by ECU is above the target range
Error codes
 DEUTZ-Errorcode: 179
 BlinkCode (short-long-short): 1 - 3 - 5
 SPN: 523615
 possible FMI:
  12. Errormode not identifiable
  12: Defective component
  12. Errormode not identifiable
  12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light, 15s before shut off. Entry in errormemory.
Possible reason for error
Short circuit to ground, fuel metering unit defective, connection cable demaged
Take actions for error repair
Check cabling , if necessary check FCU, check fuel metering unit and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, rail pressure relief valve will open
Behaviour error lamp: permanent light, 15s before shut off
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: actual value

182 / 2634 / MnRly1_SCB

Error description MAIN RELAY
Main relay 1: the current drains measured by ECU is above the target range
Error codes
 DEUTZ-Errorcode: 182
 BlinkCode (short-long-short): 1 - 3 - 7
 SPN: 2634
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Short circuit to Ubatt (relay 1), relay defective, connection cable demaged
Take actions for error repair
Check cabling, check ECU, check relay and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, shutoff the outputs MPROP
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

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183 / 2634 / MnRly1_SCG

Error description MAIN RELAY
Main relay 1: the current drains measured by ECU is above the target range

Error codes
DEUTZ-Errorcode: 183
BlinkCode (short-long-short): 1 - 3 - 8
SPN: 2634
possible FMI:
    12: Errormode not identifiable
    4: Voltage to low or short circuit to -Ubatt
    12: Errormode not identifiable
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Short circuit to ground (relay 1), relay defective, connection cable demaged
Take actions for error repair
Check cabling, check ECU, check relay and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, shutoff the outputs MPROP
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: actual value

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184 / 523420 / Montr

Error description WATCHDOG COUNTER
Internal hardware monitoring: the ECU detects an disturbance in ist monitoring module (Wachtdog)

Error codes
DEUTZ-Errorcode: 184
BlinkCode (short-long-short): 1 - 3 - 9
SPN: 523420
possible FMI:
    12: Errormode not identifiable
    12: Errormode not identifiable
    12: Errormode not identifiable
    14: Special Instructions

Errordetection
Errorlamp shows blinking. Entry in errormemory.
Possible reason for error
Watchdog counter exceeds maximum, ECU defective
Take actions for error repair
If error is not removable, change ECU
other error properties
System reaction: Recovery of ECU
Behaviour error lamp: blinking
Selfhealing: no
Signal Priority: 5
Measurement @ errortime: -

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186 / 2634 / MRlyCD

Error description MAIN RELAY
Main relay: during the switching off, main relay does not switch on within an allowed time

Error codes
DEUTZ-Errorcode: 186
BlinkCode (short-long-short): 2 - 6 - 1
SPN: 2634
possible FMI:
    7: Mechanical system not OK
    12: Defective component
    12: Errormode not identifiable
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
EDC16: main relay not open in allowed time or main relay open too early; EDC7: main relay not open in allowed time or short circuit of main relay to ground; EDC16: main relay defective, connection cable demaged; generally: rapid shut-off of the ECU (witho
Take actions for error repair
EDC16: check external main relay, check cabling
EDC7: if error is not removable, change ECU, EDC16: Check main relay and if necessary replace it, check connection cable and if necessary repair or replace it; both: if error is not removable, change ECU
other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: actual value

187 / 563 / MRlyCDMnRly2

Error description MAIN RELAY 2
Main relay 2 (in ECU): during the switching off, main relay does not switch on within an allowed time

Error codes
  DEUTZ-Errorcode: 187
  BlinkCode (short-long-short): 2 - 6 - 1
  SPN: 563
  possible FMI:
      7: Mechanical system not OK
      12: Defective component
      12. Errormode not identifiable
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
rapid shut-off of the ECU (without waiting till the end of the afterrun), ECU defective

Take actions for error repair
If error not removable, change ECU

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: actual value

188 / 2634 / MRlyCDMnRly3

Error description MAIN RELAY
Main relay 3 (in ECU): during the switching off, main relay does not switch on within an allowed time

Error codes
  DEUTZ-Errorcode: 188
  BlinkCode (short-long-short): 2 - 6 - 1
  SPN: 2634
  possible FMI:
      7: Mechanical system not OK
      12: Defective component
      12. Errormode not identifiable
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit to ground or emergency shut-off (relay 3 internal), rapid shut-off of the ECU (without waiting till the end of the afterrun), ECU defective

Take actions for error repair
Check cabling, check ECU, if error not removable, change ECU

other error properties
System reaction: Warning, shutoff the outputs MPROP (see BOSCH-Electricity operating plan)
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: actual value

189 / 523450 / MSSCD1

Error description MULTISTATE SWITCH 1
Multi state switch 1: the voltage measured by ECU is out of the target range or the swith setting is not plausible

Error codes
  DEUTZ-Errorcode: 189
  BlinkCode (short-long-short): 1 - 4 - 3
  SPN: 523450
  possible FMI:
      3: Voltage to high or short circuit to +Ubatt
      4: Voltage to low or short circuit to -Ubatt
      12. Errormode not identifiable
      2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, input voltage outside target range (switch 1), switch defective, connection cable demaged

Take actions for error repair
Check cabling and sensor, check switch and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: default value

referrenced ECU-Software
P490_ : 220, 310, 501
P491_ : 220, 310, 400, 501
P492 : 213
P513_ : 214, 300

190 / 523451 / MSSCD2

Error description MULTISTATE SWITCH 2
Multi state switch 2: the voltage measured by ECU is out of the target range or the swith setting is not plausible

Error codes
  DEUTZ-Errorcode: 190
  BlinkCode (short-long-short): 1 - 4 - 3
  SPN: 523451
  possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    12. Errormode not identifiable
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, input voltage outside target range (switch 2), switch defective, connection cable demaged

Take actions for error repair
Check cabling and sensor, check switch and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: default value

191 / 523452 / MSSCD3

Error description MULTISTATE SWITCH 3
Multi state switch 3: the voltage measured by ECU is out of the target range or the swith setting is not plausible

Error codes
  DEUTZ-Errorcode: 191
  BlinkCode (short-long-short): 1 - 4 - 3
  SPN: 523452
  possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    12. Errormode not identifiable
    2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, input voltage outside target range (switch 3), switch defective, connection cable demaged

Take actions for error repair
Check cabling and sensor, check switch and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: default value

192 / 639 / NetMngCANAOff

Error description CAN A BUS OFF
CAN bus A: the ECU is not allowed to send messages, because the status "BusOff" is detected

Error codes
  DEUTZ-Errorcode: 192
  BlinkCode (short-long-short): 2 - 7 - 1
  SPN: 639
  possible FMI:
    14: Special Instructions
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, off-state (CAN bus A), CAN bus deactivated, connection cable demaged

Take actions for error repair
Check cabling of CAN bus and if necessary repair it, check connection cable and if necessary repair or replace it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime:

referrenced ECU-Software
P490_: 220, 310, 501   P492_: 213
P491_: 220, 310, 400, 501   P513_: 214, 300

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193 / 1231 / NetMngCANBOff

Error description CAN B BUS OFF
CAN bus B: the ECU is not allowed to send messages, because the status "BusOff" is detected

Error codes
DEUTZ-Errorcode: 193
BlinkCode (short-long-short): 2 - 7 - 1
SPN: 1231
possible FMI:
14: Special Instructions
12. Errormode not identifiable
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, off-state (CAN bus B), CAN bus deactivated, connection cable demaged

Take actions for error repair
Check cabling of CAN bus and if necessary repair it, check connection cable and if necessary repair or replace it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime:

---

194 / 1235 / NetMngCANCOff

Error description CAN C BUS OFF
CAN bus C: the ECU is not allowed to send messages, because the status "BusOff" is detected

Error codes
DEUTZ-Errorcode: 194
BlinkCode (short-long-short): 2 - 7 - 1
SPN: 1235
possible FMI:
14: Special Instructions
12. Errormode not identifiable
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, off-state (CAN bus C), CAN bus deactivated, connection cable demaged

Take actions for error repair
Check cabling of CAN bus and if necessary repair it, check connection cable and if necessary repair or replace it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime:

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195 / 705 / OPLpCD

Error description OIL PRESS LAMP
Warning lamp for oil level: the current drain measured by ECU is out of the target range or the maximum temperature of the ECU component for power supply of the lamp is exceeded

Error codes
DEUTZ-Errorcode: 195
BlinkCode (short-long-short): 1 - 3 - 5
SPN: 705
possible FMI:
3: Voltage to high or short circuit to +Ubatt
4: Voltage to low or short circuit to -Ubatt
5: current to low or broken wire
2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, lamp defective, connection cable demaged

Take actions for error repair
Check cabling and load, check lamp and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

196 / 100 / OPSCD

Error description ENG OIL PRESS.
Oil pressure sensor: the voltage of sensor measured by ECU is out of the target range or the received value of oil pressure via CAN is implausible (Oil pressure is above the target range with higher oil temperature at the same time)

Error codes
 DEUTZ-Errorcode: 196
 BlinkCode (short-long-short): 2 - 2 - 4
 SPN: 100
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  2: data stream is defective
  0: data valid, but above normal working area

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, sensor defective, connection cable demaged, CAN bus wrong cabled, wiring demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check cabling, if sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it, Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, chec

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: default value

197 / 100 / OPSCD1

Error description ENG OIL PRESS.
Oil pressure: the oil pressure calculated by ECU is implausibly low

Error codes
 DEUTZ-Errorcode: 197
 BlinkCode (short-long-short): 2 - 3 - 1
 SPN: 100
 possible FMI:
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
  1: data valid, but below normal working area

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Oil pressure implausible low, sensor defective, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: actual value

198 / 100 / OPSCDSysReacHi

Error description ENG OIL PRESS.
Oil pressure: the oil pressure calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
 DEUTZ-Errorcode: 198
 BlinkCode (short-long-short): 2 - 3 - 1
 SPN: 100
 possible FMI:
  0: data valid, but above normal working area
  0: data valid, but above normal working area
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
Above target range, oil volume too large, sensor defective, oil pump defective, connection cable demaged

Take actions for error repair
Check oil level and if necessary correct it, check oil pump and if necessary replace it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Advice: OPSCD_stSysReacReqHi
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

199 / 100 / OPSCDSysReacLo

Error description ENG OIL PRESS.
Oil pressure: the oil pressure calculated by ECU is underneath the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 199
BlinkCode (short-long-short): 2 - 3 - 1
SPN: 100
possible FMI:
1: data valid, but below normal working area
1: data valid, but below normal working area
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
Below target range, oil volume too small, sensor defective, oil pump defective, connection cable demaged

Take actions for error repair
Check oil level and if necessary correct it, check oil pump and if necessary replace it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Advice: OPSCD_stSysReacReqLo
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

200 / 1237 / OSwCD

Error description OVERRIDE SWITCH
Bridgeover switch: the ECU receives a permanent signal

Error codes
DEUTZ-Errorcode: 200
BlinkCode (short-long-short): 1 - 4 - 5
SPN: 1237
possible FMI:
12. Errormode not identifiable
12. Errormode not identifiable
12. Errormode not identifiable
2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Switch is blocked, taster locked, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check switch and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: actual value

201 / 175 / OTSCD

Error description OIL TEMP. SENSOR
Oil temperature sensor: the voltage of sensor measured by ECU is out of the target range; the oil temperature calculated by ECU is implausible compared with coolant temperature or the received value via CAN is defective

Error codes
DEUTZ-Errorcode: 201
BlinkCode (short-long-short): 1 - 4 - 4
SPN: 175
possible FMI:
3: Voltage to high or short circuit to +Ubatt
4: Voltage to low or short circuit to -Ubatt
2: data stream is defective
2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, sensor defective, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check switch and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: default value

referenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

203 / 175 / OTSCDSysReac

Error description OIL TEMP. SENSOR
Oil temperature: the oil temperature calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 203
BlinkCode (short-long-short): 1 - 4 - 4
SPN: 175
possible FMI:
  0: data valid, but above normal working area
  0: data valid, but above normal working area
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
Above target range with system reaction, oil volume too small, oil loop disturbed, sensor defective, connection cable demaged

Take actions for error repair
Check cycle cooling system and compressor, check oil level and if necessary correct it, check sensor and if necessary replace it, check oil loop and if necessary repair it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Advice: OTSCD_stSysReacReq
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

208 / 523470 / PRVMon

Error description RAIL PRESS. LIM. VALVE
Rail pressure relief valve: is open, will be forced to open, the forced-open failed

Error codes
DEUTZ-Errorcode: 208
BlinkCode (short-long-short): 1 - 4 - 6
SPN: 523470
possible FMI:
  14: Special Instructions
  2: data stream is defective
  12: Defective component
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light, 15s before shut off. Entry in errormemory.

Possible reason for error
Rail pressure relief valve open or forced open abortive (interpretation of the rail pressure gradient), operating voltage too low, rail pressure sensor defective, fuel metering unit defective, rail pressure relief valve defective, air in fuel system

Take actions for error repair
Check working voltage and if necessary correct it, check rail-pressure sensor and if necessary replace it, check FCU and if necessary replace it, check rail pressure relief valve and if necessary replace it, bleed the fuel-system

other error properties
System reaction: Warning, shut the engine off in about 5 minutes
Behaviour error lamp: permanent light, 15s before shut off
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: actual value

209 / 157 / RailCD

Error description RAIL PRESS. SENSOR
Rail pressure sensor: the voltage of sensor measured by ECU is out of the target range

Error codes
DEUTZ-Errorcode: 209
BlinkCode (short-long-short): 1 - 4 - 7
SPN: 157
possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light, 15s before shut off. Entry in errormemory.

Possible reason for error
Cable break or short circuit, sensor defective, connection cable demaged

Take actions for error repair
Check cabling, check rail pressure sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, max.extraction of FCU --> open rail pressure relief valve --> shut the engine off in about 5 minutes
Behaviour error lamp: permanent light, 15s before shut off
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: default value

210 / 157 / RailCDOfsTst

Error description RAIL PRESS. SENSOR

Rail pressure sensor; the change of the voltage measured by ECU during the engine start or the after-run is out of the target range

Error codes
DEUTZ-Errorcode: 210
BlinkCode (short-long-short): 1 - 4 - 7
SPN: 157
possible FMI:
  0: data valid, but above normal working area
  1: data valid, but below normal working area
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Deviation of signal during start or after-run above target range, sensor defective

Take actions for error repair
Replace sensor

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: actual value

211 / 523613 / RailMeUn0

Error description RAIL PRESSURE

Rail pressure: the fuel pressure in rail calculated by ECU is above the target range which is dependant on the engine speed

Error codes
DEUTZ-Errorcode: 211
BlinkCode (short-long-short): 1 - 3 - 4
SPN: 523613
possible FMI:
  0: data valid, but above normal working area
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
1) Leakage in high pressure system (external) ,
2) Leakage at rail pressure relief valve (internal),
3) Needle clampt in open position,
4) Abrasion at injector,
5) Abrasion at high pressure pump,
6) Too low primary pressure on low pressure side, sensor d

Take actions for error repair
(A) Check for leakage
(B) Chek fuel-primary pressure
(C) Change components, check sensor and if necessary replace it, check fuel system and if necessary repair it

other error properties
System reaction: Warning or Warning and power reduction
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

212 / 523613 / RailMeUn1

Error description RAIL PRESSURE

Rail pressure: the fuel pressure in rail calculated by ECU is above the target range which is dependant on the volume flow rate

Error codes
DEUTZ-Errorcode: 212
BlinkCode (short-long-short): 1 - 3 - 4
SPN: 523613
possible FMI:
  0: data valid, but above normal working area
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
1) Leakage in high pressure system (external) ,
2) Leakage at rail pressure relief valve (internal),
3) Needle clampt in open position,
4) Abrasion at injector,
5) Abrasion at high pressure pump,
6) Too low primary pressure on low pressure side, sensor d

Take actions for error repair
(A) Check for leakage
(B) Chek fuel-primary pressure
(C) Change components, check sensor and if necessary replace it, check fuel system and if necessary repair it

other error properties
System reaction: Warning or Warning and power reduction
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

DTC-List
Diagnosis- and Errorcodes

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

213 / 523613 / RailMeUn2

Error description RAIL PRESSURE
Rail pressure: the fuel pressure in rail calculated by ECU is underneath the target range which is dependant on the engine speed

Error codes
DEUTZ-Errorcode: 213
BlinkCode (short-long-short): 1 - 3 - 4
SPN: 523613
possible FMI:
  0: data valid, but above normal working area
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
1) No power supply in FCU,
2) ZME clamped in open position,
3) Too high pressure nach Nullförderdrossel (FCU),
4) Nullförderdrossel clogged,
5) Too high primary pressure on low pressure side, sensor defective, fuel system disturbed

Take actions for error repair
(A) Check return-pressure FCU
(B) Check flow-pressure
(C) Change FCU, check sensor and if necessary replace it, check fuel system and if necessary repair it

other error properties
System reaction: Warning or Warning and power reduction
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

214 / 523613 / RailMeUn3

Error description RAIL PRESSURE
Rail pressure: the fuel pressure in rail calculated by ECU is underneath the target range which is dependant on the volume flow rate

Error codes
DEUTZ-Errorcode: 214
BlinkCode (short-long-short): 1 - 3 - 4
SPN: 523613
possible FMI:
  1: data valid, but below normal working area
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
1) Leakage in high pressure system (external) ,
2) Leakage at rail pressure relief valve (internal),
3) Needle clampt in open position,
4) Abrasion at injector,
5) Abrasion at high pressure pump,
6) Too low primary pressure on low pressure side, sensor d

Take actions for error repair
(A) Check for leakage
(B) Chek fuel-primary pressure
(C) Change components, check sensor and if necessary replace it, check fuel system and if necessary repair it

other error properties
System reaction: Warning or Warning and power reduction
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

215 / 523613 / RailMeUn4

Error description RAIL PRESSURE
Rail pressure: the fuel pressure in rail calculated by ECU is above the absolute target range

Error codes
DEUTZ-Errorcode: 215
BlinkCode (short-long-short): 1 - 3 - 4
SPN: 523613
possible FMI:
  0: data valid, but above normal working area
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.

Possible reason for error
1) No power supply in FCU,
2) ZME clamped in open position,
3) Too high pressure nach Nullförderdrossel (FCU),
4) Nullförderdrossel clogged,
5) Too high primary pressure on low pressure side, sensor defective, fuel system disturbed

Take actions for error repair
(A) Check return-pressure FCU
(B) Check flow-pressure
(C) Change FCU, check sensor and if necessary replace it, check fuel system and if necessary repair it

other error properties
System reaction: Warning or Warning and power reduction
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

216 / 523613 / RailMeUn7

Error description RAIL PRESSURE
Rail pressure: the fuel pressure in rail calculated by ECU is implausible compared with the setpoint setting of the fuel metering unit
Error codes
 DEUTZ-Errorcode: 216
 BlinkCode (short-long-short): 1 - 3 - 4
 SPN: 523613
 possible FMI:
  2: data stream is defective
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light
oder
blinking. Entry in errormemory.
Possible reason for error
1) Leakage in high pressure system (external) ,
2) Leakage at rail pressure relief valve (internal),
3) Needle clampt in open position,
4) Abrasion at injector,
5) Abrasion at high pressure pump,
6) Too low primary pressure on low pressure side, sensor d
Take actions for error repair
(A) Check for leakage
(B) Chek fuel-primary pressure
(C) Change components, check sensor and if necessary replace it, check fuel system and if necessary repair it
other error properties
System reaction: Warning or Warning and power reduction
Behaviour error lamp: permanent light
oder
blinking
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

218 / 523490 / SOPTst

Error description REDUNDANT SHUT OFF DET.
Internal hardware monitoring: the ECU finds an disturbance in the redundant switch off path through a test during the ramp up phase
Error codes
 DEUTZ-Errorcode: 218
 BlinkCode (short-long-short): 1 - 4 - 9
 SPN: 523490
 possible FMI:
  12. Errormode not identifiable
  12: Defective component
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Test of redundant shut-off paths
Take actions for error repair
Could be triggered by over/undervoltage or external Watchdog
other error properties
System reaction: Test will only be executed with ECU Initialisation. Warning, dependent upon application.
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: -

219 / 1079 / SSpMon1

Error description 5V SUPPLY 1 FAIL.
Internal hardware monitoring: the ECU detects a deviation of the target range of the power supply voltage of sensor 1
Error codes
 DEUTZ-Errorcode: 219
 BlinkCode (short-long-short): 2 - 8 - 2
 SPN: 1079
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  12. Errormode not identifiable
  12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
5V sensor supply voltage 1 outside target range, operating voltage too high or to low, connection cable demaged, ECU defective
Take actions for error repair
If error not removable, change ECU, check cabling of external components, check working voltage and if necessary correct it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

221 / 1080 / SSpMon2

Error description 5V SUPPLY 2 FAIL.
Internal hardware monitoring: the ECU detects a deviation of the target range of the power supply voltage of sensor 2

Error codes
 DEUTZ-Errorcode: 221
 BlinkCode (short-long-short): 2 - 8 - 2
 SPN: 1080
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
5V sensor supply voltage 2 outside target range, operating voltage too high or to low, connection cable demaged, ECU defective

Take actions for error repair
If error not removable, change ECU, check cabling of external components, check working voltage and if necessary correct it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

222 / 523601 / SSpMon3

Error description 5V SUPPLY 3 FAIL.
Internal hardware monitoring: the ECU detects a deviation of the target range of the power supply voltage of sensor 3

Error codes
 DEUTZ-Errorcode: 222
 BlinkCode (short-long-short): 2 - 8 - 2
 SPN: 523601
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Wrong voltage of internal 5V reference source 3, operating voltage too high or too low, connection cable demaged, ECU defective

Take actions for error repair
If error not removable, change ECU, check cabling of external components, check working voltage and if necessary correct it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: actual value

223 / 677 / StrtCDHS

Error description START RELAY
Start relay (high side power stage): the current drain measured by ECU is above the target range

Error codes
 DEUTZ-Errorcode: 223
 BlinkCode (short-long-short): 5 - 1 - 2
 SPN: 677
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Start relay (high side): short circuit, relay defective, connnecction cable defective

Take actions for error repair
Check cabling and start relay and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

224 / 677 / StrtCDLS

Error description START RELAY
start relay (low side power stage): the current drain measured by ECU is out of the target range
Error codes
 DEUTZ-Errorcode: 224
 BlinkCode (short-long-short): 5 - 1 - 2
 SPN: 677
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  5: current to low or broken wire
  12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Start relay (low side): cable break or short circuit, disabled by ECU, relay defective, connection cable demaged
Take actions for error repair
Check cabling and start relay and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, shutoff output
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: default value

225 / 624 / SysLamp

Error description DIAGNOSTIC LAMP
Error lamp (diagnostic lamp): the current drain measured by ECU is out of the target range or the maximum permissble temperature of the ECU component for power supply of the lamp is exceeded
Error codes
 DEUTZ-Errorcode: 225
 BlinkCode (short-long-short): 5 - 1 - 3
 SPN: 624
 possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  5: current to low or broken wire
  2: data stream is defective
Errordetection
Errorlamp shows -. Entry in errormemory.
Possible reason for error
Cable break or short circuit, disabled by ECU, lamp defective, connection cable demaged
Take actions for error repair
Check cabling and load, check lamp and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: only error memory item
Behaviour error lamp: -
Selfhealing: no
Signal Priority: 2
Measurement @ errortime: setpoint Diagnosticlamp

226 / 158 / T15CD

Error description TERMINAL 15
Terminal 15: ECU receives no signal
Error codes
 DEUTZ-Errorcode: 226
 BlinkCode (short-long-short): 5 - 1 - 4
 SPN: 158
 possible FMI:
  12. Errormode not identifiable
  12. Errormode not identifiable
  12: Defective component
  12. Errormode not identifiable
Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Ignition ON not detected, ignition switch defective, connection cable demaged
Take actions for error repair
Check cabling, if sensor not working, check ignition switch and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning, engine can not start
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 2
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

227 / 523550 / T50CD

Error description TERMINAL 50
Terminal 50: ECU receives a permanent signal

Error codes
DEUTZ-Errorcode: 227
BlinkCode (short-long-short): 5 - 1 - 5
SPN: 523550
possible FMI:
    12: Defective component
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Engine start switch stuck, start switch clamped, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check start switch and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 1
Measurement @ errortime: actual value

228 / 523550 / TPUMon

Error description TERMINAL 50
Internal hardware monitoring: ECU detects a deviation between the signal of time module and the system time

Error codes
DEUTZ-Errorcode: 228
BlinkCode (short-long-short): 5 - 5 - 5
SPN: 523550
possible FMI:
    12. Errormode not identifiable
    12. Errormode not identifiable
    12. Errormode not identifiable
    2: data stream is defective

Errordetection
Errorlamp shows blinking. Entry in errormemory.

Possible reason for error
Time processing unit (TPU) defective, ECU defective

Take actions for error repair
If error not removable, change ECU

other error properties
System reaction: Recovery of ECU
Behaviour error lamp: blinking
Selfhealing: no
Signal Priority: 5
Measurement @ errortime: -

232 / 84 / VSSCD1

Error description VEHICLE SPEED
Vehicle speed: over the maximum, signal invalid or implausible compared with the injection quantity and the engine speed, offset factors unlearned

Error codes
DEUTZ-Errorcode: 232
BlinkCode (short-long-short): 5 - 2 - 1
SPN: 84
possible FMI:
    0: data valid, but above normal working area
    12: Defective component
    8: unusual frequency, pulse or period.
    14: Special Instructions

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Speed above target range, signal invalid or implausible compared to injection volume and engine speed, distance factor not learned, sensor defective, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

235 / 523600 / WdCom

Error description SERIAL INTERFACE DEF.
Internal hardware monitoring: the ECU detects a disturbance in internal communication

Error codes
DEUTZ-Errorcode: 235
BlinkCode (short-long-short): 5 - 5 - 5
SPN: 523600
possible FMI:
    12: Errormode not identifiable
    12: Errormode not identifiable
    12: Errormode not identifiable
    12: Defective component

Errordetection
Errorlamp shows blinking. Entry in errormemory.

Possible reason for error
Communication disturbed, ECU defective

Take actions for error repair
If error not to removable, change ECU

other error properties
System reaction: Recovery of ECU
Behaviour error lamp: blinking
Selfhealing: no
Signal Priority: 5
Measurement @ errortime: -

236 / 523470 / PRVMonSysReac

Error description RAIL PRESS. LIM. VALVE
Rail pressure relief valve: is open, will be forced to open, the forced-open failed; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 236
BlinkCode (short-long-short): 1 - 4 - 6
SPN: 523470
possible FMI:
    12: Defective component
    12: Defective component
    12: Errormode not identifiable
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light, 15s before shut off. Entry in errormemory.

Possible reason for error
Rail pressure relief valve open or forced open abortive (interpretation of the rail pressure gradient), power supply voltage too low, rail pressure sensor defective, fuel metering unit defective, rail pressure relief valve defective, air in fuel system

Take actions for error repair
Check working voltage and if necessary correct it, check rail-pressure sensor and if necessary replace it, check FCU and if necessary replace it, check rail pressure relief valve and if necessary replace it, bleed the fuel-system

other error properties
System reaction: Warning, shut the engine off in about 5 minutes
Behaviour error lamp: permanent light, 15s before shut off
Selfhealing: no
Signal Priority: 4
Measurement @ errortime: actual value

237 / 523006 / APPCDSwtnSel

Error description CONTR. MODE SWITCH
Controller mode switch: the signal received by ECU is defective or implausible.

Error codes
DEUTZ-Errorcode: 237
BlinkCode (short-long-short): 2 - 4 - 2
SPN: 523006
possible FMI:
    3: Voltage to high or short circuit to +Ubatt
    4: Voltage to low or short circuit to -Ubatt
    2: data stream is defective
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break, signal implausible, switch defective, connection cable demaged

Take actions for error repair
Check switch and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 2
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

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238 / 523007 / FrmMng_TORxEngPress

Error description CAN ERROR RxEngPress.

Error codes
DEUTZ-Errorcode: 238
BlinkCode (short-long-short): 2 - 1 - 5
SPN: 523007
possible FMI:
12: Defective component
12. Errormode not identifiable
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error

Take actions for error repair

other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 1
Measurement @ errortime: default value

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239 / 523008 / MplCtl

Error description MANIPULATION CONTROL
Data monitoring: the torque curve does not match the specification

Error codes
DEUTZ-Errorcode: 239
BlinkCode (short-long-short): 4 - 2 - 4
SPN: 523008
possible FMI:
1: data valid, but below normal working area
2. data stream is defective
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows . Entry in errormemory.

Possible reason for error
Manipulation of Topcurve detected, data manipulation, too slow changed curve

Take actions for error repair

other error properties
System reaction:
Behaviour error lamp:
Selfhealing: -
Signal Priority: 3
Measurement @ errortime:

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240 / 98 / OLSCD

Error description OIL LEVEL SWITCH
Oil level sensor: the voltage of sensor measured by ECU is out of the target range or the received value of oil level via CAN is defective or the signal value is implausible

Error codes
DEUTZ-Errorcode: 240
BlinkCode (short-long-short): 2 - 1 - 1
SPN: 98
possible FMI:
3: Voltage to high or short circuit to +Ubatt
4: Voltage to low or short circuit to -Ubatt
2: data stream is defective
2: data stream is defective

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Voltage outside target range, CAN signal error, signal implausible, sensor defective, connection cable demaged, CAN bus wrong cabled, wiring demaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check cabling, if sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it, Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, chec

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

241 / 98 / OLSCDSysReacHi

Error description OIL LEVEL SWITCH
Oil level: the oil level calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 241
BlinkCode (short-long-short): 2 - 5 - 1
SPN: 98
possible FMI:
  0: data valid, but above normal working area
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Oil level too high with system reaction, oil volume too large, sensor defective, connection cable demaged, CAN data error

Take actions for error repair
Check oil level and if necessary correct it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Advice: OLSCD_stSysReacReq
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

242 / 107 / ADPSCDAna

Error description AIR FILTER COND.
Air filter differential pressure sensor: the voltage of sensor measured by ECU is out of the target range

Error codes
DEUTZ-Errorcode: 242
BlinkCode (short-long-short): 1 - 3 - 6
SPN: 107
possible FMI:
  3: Voltage to high or short circuit to +Ubatt
  4: Voltage to low or short circuit to -Ubatt
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Voltage outside target range, sensor defective, connection cable demaged

Take actions for error repair
Check cable harness, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

243 / 98 / OLSCDSysReacLo

Error description OIL LEVEL SWITCH
Oil level: the oil level calculated by ECU is underneath the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 243
BlinkCode (short-long-short): 2 - 5 - 2
SPN: 98
possible FMI:
  1: data valid, but below normal working area
  12. Errormode not identifiable
  12. Errormode not identifiable
  12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Oil level too low with system reaction, oil volume too small, sensor defective, connection cable demaged, CAN data error

Take actions for error repair
Check oil level and if necessary correct it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Advice: OLSCD_stSysReacReq
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

244 / 523009 / PrvMonWear

Error description REPL. RAIL PRESS. VALVE
Rail pressure relief valve: is open more frequently or for a longer time than what the technical specification allows

Error codes
  DEUTZ-Errorcode: 244
  BlinkCode (short-long-short): 2 - 5 - 3
  SPN: 523009
  possible FMI:
      9: Abnormal update rated
      10: Abnormal rate of change
      14: Special Instructions
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Rail pressure relief valve open more frequently than the technical specification allowed, rail pressure relief valve open longer than the technical specification allowed, rail pressure relief valve defective
Take actions for error repair
Change rail pressure relief valve and remove the error through Serdia command
other error properties
System reaction: permanent error message, unerasable by "Clear EM"
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: actual value

245 / 523010 / RailMeUn8

Error description LEAKAGE DETECTION
Wenn the engine is in idle running, the metering unit compares its output and rail pressure with the default value (Parameter) and calculates a correction factor-it calibrates itself then

Error codes
  DEUTZ-Errorcode: 245
  BlinkCode (short-long-short): 2 - 5 - 4
  SPN: 523010
  possible FMI:
      0: data valid, but above normal working area
      12. Errormode not identifiable
      12. Errormode not identifiable
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Take actions for error repair
other error properties
System reaction:
Behaviour error lamp: permanent light
Selfhealing: no
Signal Priority: 3
Measurement @ errortime: actual value

246 / 523650 / FISys_FLPFMSysReac

Error description
Low fuel pressure Diesel: the low fuel pressure calculated by ECU is underneath the target range; the ECU activates a system reaction

Error codes
  DEUTZ-Errorcode: 246
  BlinkCode (short-long-short): 5 - 4 - 1
  SPN: 523650
  possible FMI:
      2: data stream is defective
      2: data stream is defective
      12. Errormode not identifiable
      12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.
Possible reason for error
Diesel fuel pressure below target range with system reaction, interruption in cycling process of low fuel pressure (for example, fuel pump defective), sensor defective, connection cable demaged
Take actions for error repair
Check Diesel low fuel pressure loop system, Check electrical fuel pump, inspect fuel system and if necessary repair it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it
other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: default value

DTC-List
Diagnosis- and Errorcodes

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501

P492_: 213
P513_: 214, 300

247 / 523651 / FISys_FTSFMSysReac

Error description
Rape Oil Fuel temperature: the fuel temperature calculated by ECU is above the target range; the ECU activates a system reaction

Error codes
DEUTZ-Errorcode: 247
BlinkCode (short-long-short): 5 - 4 - 2
SPN: 523651
possible FMI:
2: data stream is defective
2: data stream is defective
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Rape oil fuel temperature above target range with system reaction, interruption of rape oil fuel loop (for example, heat exchanger not working properly), sensor defective, connection cable demaged

Take actions for error repair
Check rape oil fuel system as well as heat exchanger and heat exchanger valve, if necessary repair it, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning and switchover to Diesel operation mode
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

248 / 523652 / FISys_FlushStateEngineOff

Error description
Engine shut off without flushing or flushing was not already completed. ECU stores every shutoff with uncompleted or missing flushing process

Error codes
DEUTZ-Errorcode: 248
BlinkCode (short-long-short): 5 - 4 - 3
SPN: 523652
possible FMI:
2: data stream is defective
12. Errormode not identifiable
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Engine shut off without flushing of the fuel system in Diesel operation mode, Shutoff before flushing in Diesel operation mode was finished

Take actions for error repair
Awaiting complete flushing of the fuel system everytime before engine shut off

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: -

249 / 523653 / FISys_RapeOilHeatEx

Error description RAPEOILSYSTEM
Awaited temperature rise with opened heat exchanger valve did not occur. Error in fuel heating system.

Error codes
DEUTZ-Errorcode: 249
BlinkCode (short-long-short): 5 - 4 - 4
SPN: 523653
possible FMI:
2: data stream is defective
12. Errormode not identifiable
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Fuel heating system (heat exchanger) not working correctly

Take actions for error repair
Check Heat exchanger and heat exchanger valve, check cooling system going to the heat exchanger, check rape oil system going to the heat exchanger

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: -

250 / 523654 / FrmMngDieselLvl

Error description RAPEOILSYSTEM
Status DieselLvl (Diesel tank level): the voltage of the sensor measured by ECU is out of the target range

Error codes
DEUTZ-Errorcode: 250
BlinkCode (short-long-short): 5 - 4 - 5
SPN: 523654
possible FMI:
   3: Voltage to high or short circuit to +Ubatt
   4: Voltage to low or short circuit to -Ubatt
   12. Errormode not identifiable
   12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, sensor defective, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

251 / 523655 / FrmMngFuelTemp

Error description RAPEOILSYSTEM
Status FuelTemp (Fuel Temperature): the voltage of the sensor measured by ECU is out of the target range

Error codes
DEUTZ-Errorcode: 251
BlinkCode (short-long-short): 5 - 4 - 6
SPN: 523655
possible FMI:
   3: Voltage to high or short circuit to +Ubatt
   4: Voltage to low or short circuit to -Ubatt
   12. Errormode not identifiable
   12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, lamp defective, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

252 / 523656 / FrmMngLowPressureDiesel

Error description RAPEOILSYSTEM
Status LowPressureDiesel (Low fuel pressure diesel): the voltage of the sensor measured by ECU is out of the target range

Error codes
DEUTZ-Errorcode: 252
BlinkCode (short-long-short): 5 - 4 - 7
SPN: 523656
possible FMI:
   3: Voltage to high or short circuit to +Ubatt
   4: Voltage to low or short circuit to -Ubatt
   12. Errormode not identifiable
   12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, lamp defective, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

DTC-List
Diagnosis- and Errorcodes

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

253 / 523657 / FrmMngRapeOilIn

Error description RAPEOILSYSTEM
CAN messageRapeOilIn (Rape oil input): the message can not be received by ECU

Error codes
DEUTZ-Errorcode: 253
BlinkCode (short-long-short): 5 - 6 - 1
SPN: 523657
possible FMI:
12: Defective component
12. Errormode not identifiable
12: Defective component
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
CAN bus wrong cabled, wiring is damaged, receiver (sender of the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit, power interrupt), test protocol of receiver, check CAN functional range

other error properties
System reaction: Warning, substitute values
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

254 / 523658 / FrmMngRapeOilLvl

Error description RAPEOILSYSTEM
Status RapeOilLvl (Rape oil tank level): the voltage of the sensor measured by ECU is out of the target range

Error codes
DEUTZ-Errorcode: 254
BlinkCode (short-long-short): 5 - 6 - 2
SPN: 523658
possible FMI:
3: Voltage to high or short circuit to +Ubatt
4: Voltage to low or short circuit to -Ubatt
12. Errormode not identifiable
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, lamp defective, connection cable demaged

Take actions for error repair
Check cabling, if sensor not working, check sensor and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, substitute value
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

255 / 523659 / FrmMngRapeOilVlv1

Error description RAPEOILSYSTEM
Status RapeOilVlv1 (Valve 1): the current drain measured by ECU is out of the target range or the maximum permissible temperature of the ECU component is exceeded

Error codes
DEUTZ-Errorcode: 255
BlinkCode (short-long-short): 5 - 6 - 3
SPN: 523659
possible FMI:
12. Errormode not identifiable
12. Errormode not identifiable
12: Defective component
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, valve defective, connection cable demaged

Take actions for error repair
Check cabling, if valve not working, check valve and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning and switchover to Diesel operation mode
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

256 / 523660 / FrmMngRapeOilVlv2

Error description RAPEOILSYSTEM
Status RapeOilVlv2 (Valve 2): the current drain measured by ECU is out of the target range or the maximum permissible temperature of the ECU component is exceeded

Error codes
DEUTZ-Errorcode: 256
BlinkCode (short-long-short): 5 - 6 - 4
SPN: 523660
possible FMI:
12. Errormode not identifiable
12. Errormode not identifiable
12: Defective component
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, valve defective, connection cable demaged

Take actions for error repair
Check cabling, if valve not working, check valve and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning and switchover to Diesel operation mode
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

257 / 523661 / FrmMngRapeOilVlv3

Error description RAPEOILSYSTEM
Status RapeOilVlv3 (Valve 3): the current drain measured by ECU is out of the target range or the maximum permissible temperature of the ECU component is exceeded

Error codes
DEUTZ-Errorcode: 257
BlinkCode (short-long-short): 5 - 6 - 5
SPN: 523661
possible FMI:
12. Errormode not identifiable
12. Errormode not identifiable
12: Defective component
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, valve defective, connection cable demaged

Take actions for error repair
Check cabling, if valve not working, check valve and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning and switchover to Diesel operation mode
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

258 / 523662 / FrmMngRapeOilVlv4

Error description RAPEOILSYSTEM
Status RapeOilVlv4 (Valve 4): the current drain measured by ECU is out of the target range or the maximum permissible temperature of the ECU component is exceeded

Error codes
DEUTZ-Errorcode: 258
BlinkCode (short-long-short): 5 - 6 - 6
SPN: 523662
possible FMI:
12. Errormode not identifiable
12. Errormode not identifiable
12: Defective component
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, valve defective, connection cable demaged

Take actions for error repair
Check cabling, if valve not working, check valve and if necessary replace it, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

DTC-List
Diagnosis- and Errorcodes

referrenced ECU-Software
P490_ : 220, 310, 501   P492_ : 213
P491_ : 220, 310, 400, 501   P513_ : 214, 300

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259 / 523663 / FrmMngRapeOilVlv5

Error description RAPEOILSYSTEM
Status RapeOilVlv5 (Valve 5): the current drain measured by
ECU is out of the target range or the maximum permissible
temperature of the ECU component is exceeded

Error codes
DEUTZ-Errorcode: 259
BlinkCode (short-long-short): 5 - 6 - 7
SPN: 523663
possible FMI:
    12: Errormode not identifiable
    12: Errormode not identifiable
    12: Defective component
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break or short circuit, valve defective, connection cable
demaged

Take actions for error repair
Check cabling, if valve not working, check valve and if necessary
replace it, check connection cable and if necessary repair or
replace it

other error properties
System reaction: Warning
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value

260 / 523664 / FrmMngSTIN1RX

Error description RAPEOILSYSTEM
CAN message STIN1 (State Inputs 1): the message can not be
received by ECU

Error codes
DEUTZ-Errorcode: 260
BlinkCode (short-long-short): 5 - 6 - 8
SPN: 523664
possible FMI:
    12: Defective component
    12: Errormode not identifiable
    12: Defective component
    12: Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
CAN bus wrong cabled, wiring is demaged, receiver (sender of
the message) work inaccurately, parametering inaccurate

Take actions for error repair
Check CAN Bus cabling (Bus sheduling, polarity, short circuit,
power interrupt), test protocol of receiver, check CAN functional
range

other error properties
System reaction: Warning, substitute values
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 3
Measurement @ errortime: default value