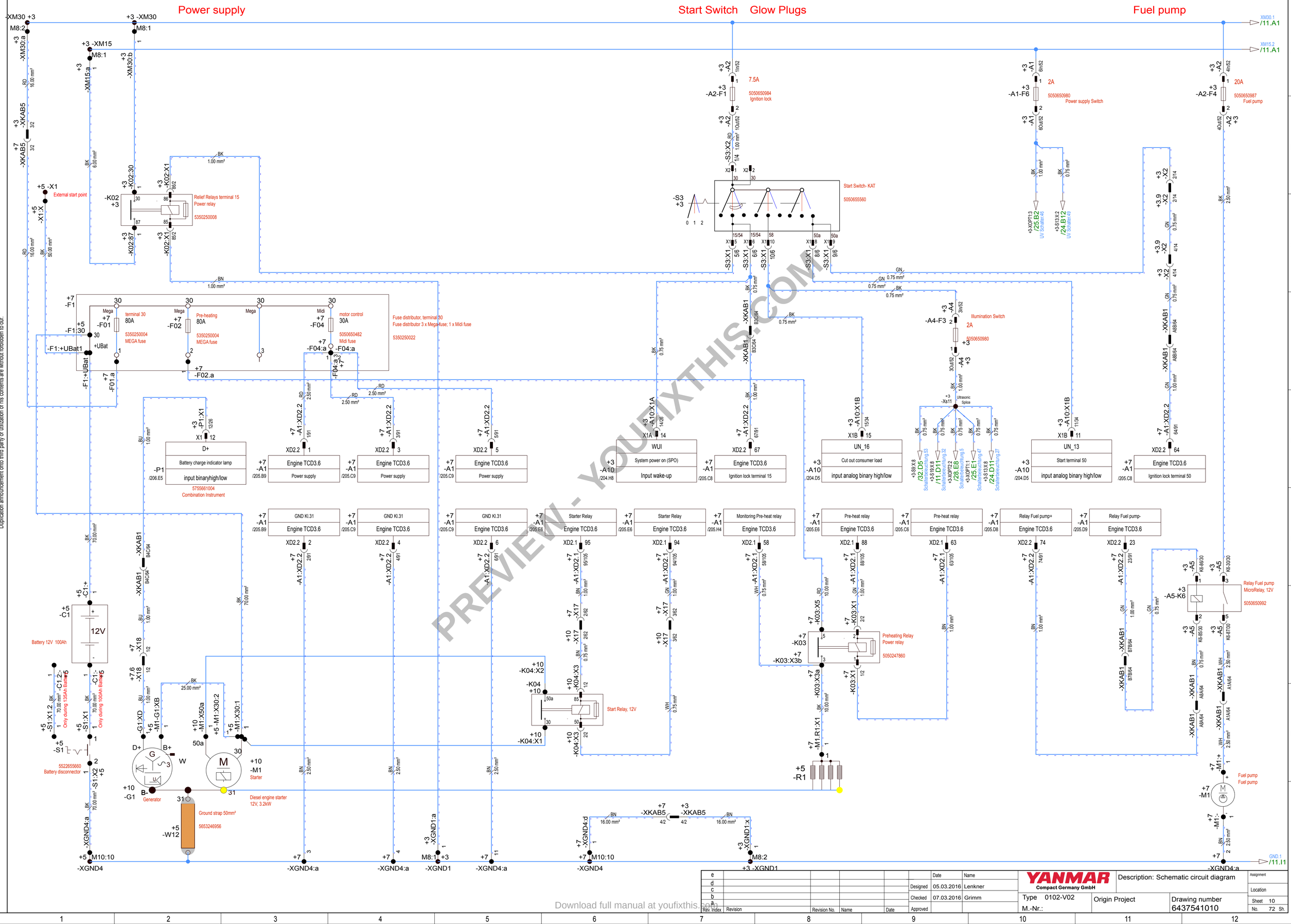
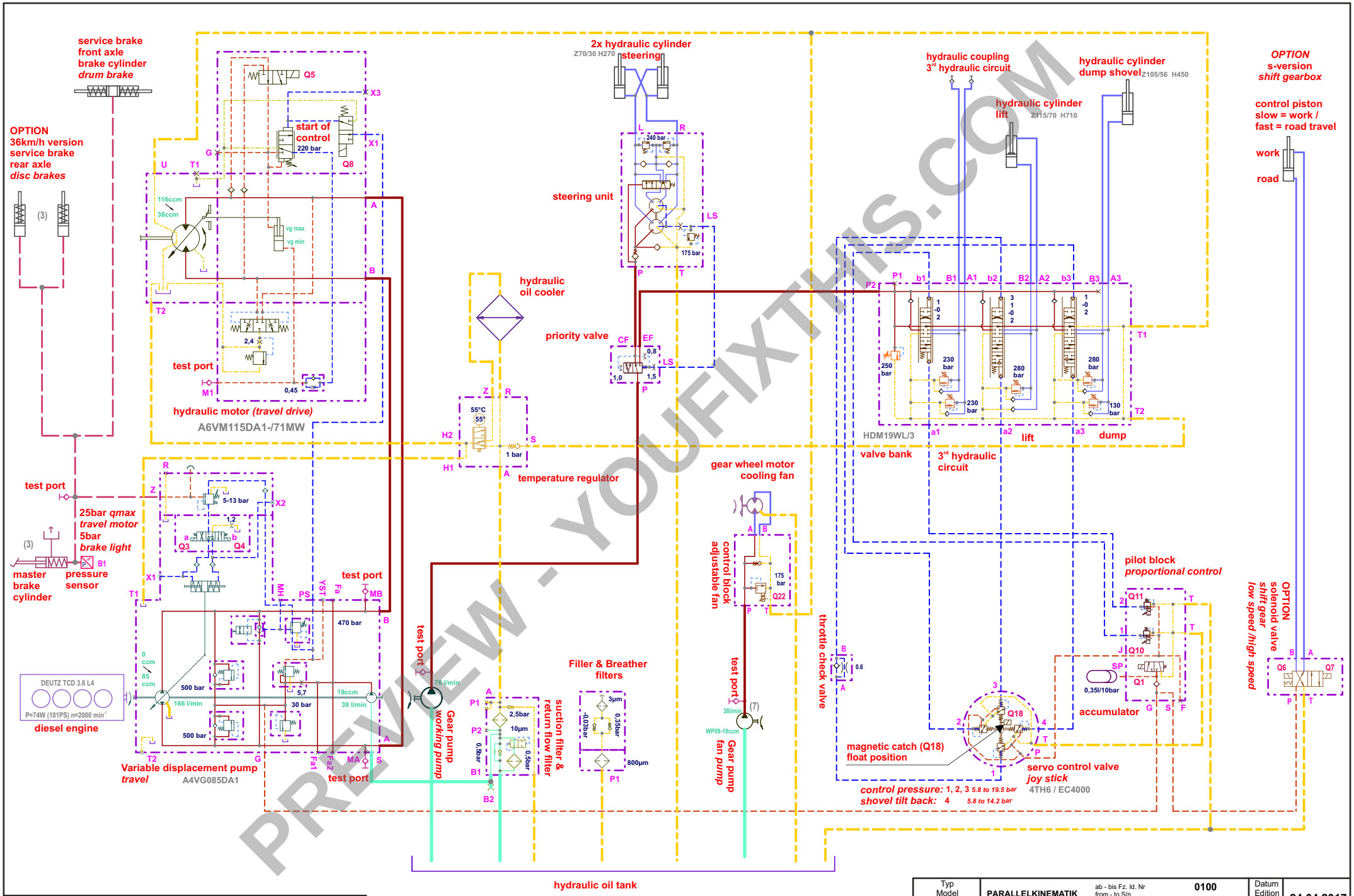


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e								Date	Name	YANMAR Compact Germany GmbH	Description: Schematic circuit diagram
d							Designed	05.03.2016	Lenkner		Assignment
c							Checked	07.03.2016	Grimm		Location
b							Approved			Type 0102-V02	Origin Project / Drawing number 6437541010
a										M.-Nr.:	Sheet 10 / No. 72 Sh.
Rev. Index	Revision		Revision No.	Name	Date						

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suction lines
pressure lines
return lines
hydraulic lines
pressure control line
control lines
drain lines
brake lines
system boundary

(3) Stages master cylinder and disc brakes in the rear axle at the TL120S fast travel version
(6) At the drive-through of the drive pump - Rated speed 2000 1/min
(7) PTO of the diesel engine - rated speed 2080 1/min

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Typ Model Type Tipo	PARALLELKINEMATIK PARALLEL KINEMATICS	ab - bis Fz. Id. Nr from - to S/n à partier de - jusqu'au n/s desde - hasta n/s	0100 → XXXX
Benennung Description Dénomination Denominación	Hydraulikschaltplan - Standard Hydraulic circuit diagram - Standard Schéma hydraulique - Standard Esquema hidráulico - Estándar		

Datum Edition Date Fecha	24.04.2017
Blatt Page Feuille Página	04.27.01

Replacing the crankshaft sealing ring (Flywheel side)

Conventional tools
Special tools:
- Pricker 01899103
- Assembly lever 01899110
- Assembly tool 02992214

- Self-tapping screw 3.5 mm
- Washer

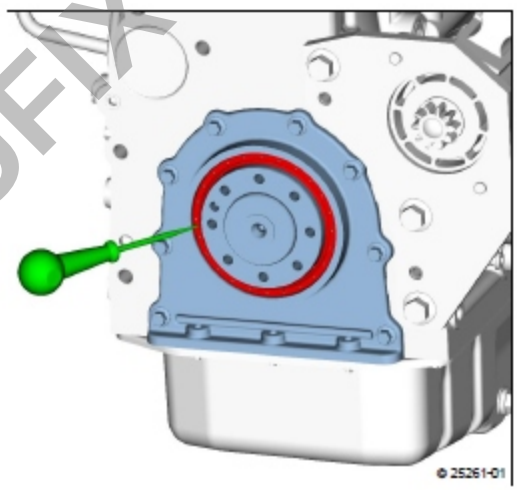
- Safety information / User information

ATTENTION
The crankshaft sealing ring is waxed at the factory.
Do not oil the crankshaft sealing ring.

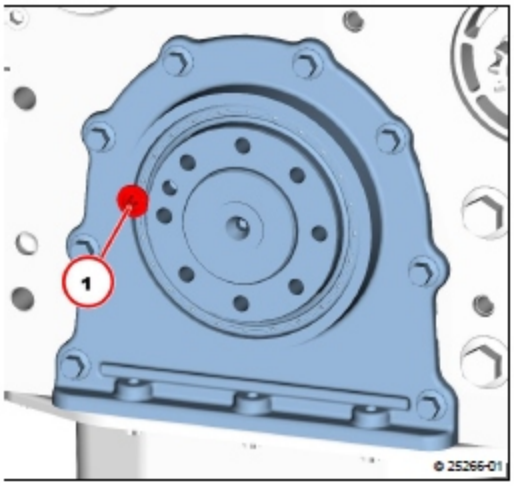
Removing the crankshaft sealing ring

- Remove the flywheel.
  Module 05
- Make a hole of approx. 3 mm in the crankshaft sealing ring with a pricker.

ATTENTION
Do not damage the gasket housing and crankshaft!

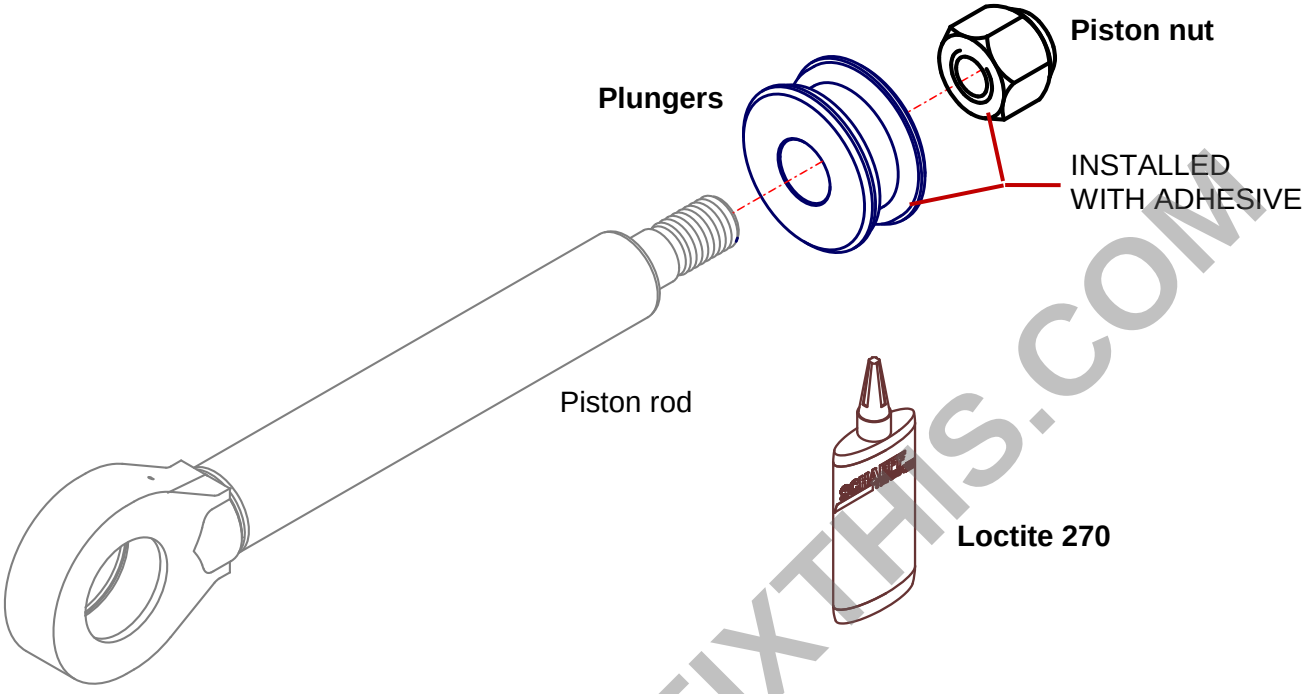


- Screw in a self-tapping screw (1) with washer.



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1.500.01 Tightening torques for pistons or piston nuts



Piston nut/piston thread	Tightening torque Nm	Type of mounting
M 18x2	200	**Piston nut**
M 22x2	410	**Piston nut**
M 24x2	450	**Piston nut**
M 27x2	810	**Piston nut**
M 27x2	530	**Plungers**
M 30x2	1050	**Piston nut**
M 33x2	1100	**Piston nut**
M 35x1.5	730	**Plungers**
M 36x2	1075	**Plungers**
M 36x3	1550	**Piston nut**
M 39x3	1700	**Piston nut**
M 40x1.5	730	**Plungers**
M 42x2	1400	**Plungers**
M 42x3	1750	**Piston nut**
M 48x3	2050	**Piston nut**
M 50x2	1300	**Plungers**
M 56x2	1600	**Plungers**
M 60x2	1800	**Plungers**
M 64x2	2000	**Plungers**
M 70x3	2700	**Plungers**
M 80x2	2900	**Plungers**
M 90x2	3200	**Plungers**
M 100x3	3500	**Plungers**

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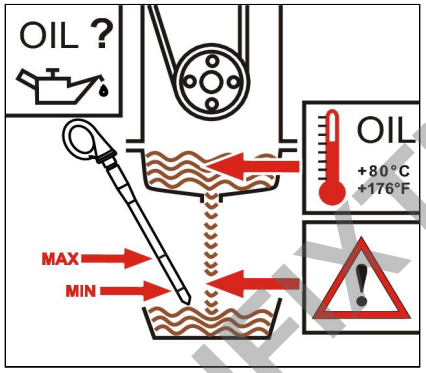
DTC Code (Hex)	DTC Type	SPN-Value	Failure type	Function/Module	Number	Description
622A01	C (communication)	207361	FMI=2—DATA ERRATIC, INTERMITTENT OR INCORRECT	HMI	1	No communication to the HMI (Display or dashboard)
732A01	C (communication)	207361	FMI=19—RECEIVED NETWORK DATA IN ERROR	HMI	1	IO-failure on HMI (Display or dashboard)
623201	C (communication)	209409	FMI=2—DATA ERRATIC, INTERMITTENT OR INCORRECT	Keypad	1	No communication to the keypad
733201	C (communication)	209409	FMI=19—RECEIVED NETWORK DATA IN ERROR	Keypad	1	IO-failure on keypad
621D01	C (communication)	204033	FMI=2—DATA ERRATIC, INTERMITTENT OR INCORRECT	ECU	1	No communication to the ECU (engine control unit)
731D01	C (communication)	204033	FMI=19—RECEIVED NETWORK DATA IN ERROR	ECU	1	IO-failure on the ECU (engine control unit)
620201	C (communication)	197121	FMI=2—DATA ERRATIC, INTERMITTENT OR INCORRECT	ACU	1	No communication to the ACU (Air condition and climate control unit)
730201	C (communication)	197121	FMI=19—RECEIVED NETWORK DATA IN ERROR	ACU	1	IO-failure on the ACU (Air condition and climate control unit)
625801	C (communication)	219137	FMI=2—DATA ERRATIC, INTERMITTENT OR INCORRECT	TCU	1	No communication to the TCU (transmission control unit)
735801	C (communication)	219137	FMI=19—RECEIVED NETWORK DATA IN ERROR	TCU	1	IO-failure on the TCU (transmission control unit)
622B01	C (communication)	207617	FMI=2—DATA ERRATIC, INTERMITTENT OR INCORRECT	HPCU	1	No communication to the HPCU (Hydraulic pump control unit)
732B01	C (communication)	207617	FMI=19—RECEIVED NETWORK DATA IN ERROR	HPCU	1	IO-failure on the HPCU (Hydraulic pump control unit)
443A01	P (Power supply)	145921	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	1	VBATF1 below normal
443A02	P (Power supply)	145922	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	2	VBATF2 below normal
443A03	P (Power supply)	145923	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	3	VBATF3 below normal
443A04	P (Power supply)	145924	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	4	VBATF4 below normal
443A05	P (Power supply)	145925	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	5	VBATD1 below normal
443A06	P (Power supply)	145926	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	6	VBATD2 below normal
443A07	P (Power supply)	145927	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	7	VBATD3 below normal
443A08	P (Power supply)	145928	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	8	VBATD4 below normal
443A09	P (Power supply)	145929	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	9	VBATD5 below normal
443A0A	P (Power supply)	145930	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	10	VBATD6 below normal
443A0B	P (Power supply)	145931	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	11	VBATD7 below normal
443A0C	P (Power supply)	145932	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	12	RTC-Battery-voltage below normal range
203A01	I (Input)	80385	FMI=0—DATA VALID BUT ABOVE NORMAL OPERATIONAL RANGE - MOST SEVERE LEVEL	MCU	1	UN01
213A01	I (Input)	80385	FMI=1—DATA VALID BUT BELOW NORMAL OPERATIONAL RANGE - MOST SEVERE LEVEL	MCU	1	UN01
223A01	I (Input)	80385	FMI=2—DATA ERRATIC, INTERMITTENT OR INCORRECT	MCU	1	UN01
233A01	I (Input)	80385	FMI=3—VOLTAGE ABOVE NORMAL, OR SHORTED TO HIGH SOURCE	MCU	1	UN01
243A01	I (Input)	80385	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	1	UN01
203A02	I (Input)	80386	FMI=0—DATA VALID BUT ABOVE NORMAL OPERATIONAL RANGE - MOST SEVERE LEVEL	MCU	2	UN02
213A02	I (Input)	80386	FMI=1—DATA VALID BUT BELOW NORMAL OPERATIONAL RANGE - MOST SEVERE LEVEL	MCU	2	UN02
223A02	I (Input)	80386	FMI=2—DATA ERRATIC, INTERMITTENT OR INCORRECT	MCU	2	UN02
233A02	I (Input)	80386	FMI=3—VOLTAGE ABOVE NORMAL, OR SHORTED TO HIGH SOURCE	MCU	2	UN02
243A02	I (Input)	80386	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	2	UN02
203A03	I (Input)	80387	FMI=0—DATA VALID BUT ABOVE NORMAL OPERATIONAL RANGE - MOST SEVERE LEVEL	MCU	3	UN03
213A03	I (Input)	80387	FMI=1—DATA VALID BUT BELOW NORMAL OPERATIONAL RANGE - MOST SEVERE LEVEL	MCU	3	UN03
223A03	I (Input)	80387	FMI=2—DATA ERRATIC, INTERMITTENT OR INCORRECT	MCU	3	UN03
233A03	I (Input)	80387	FMI=3—VOLTAGE ABOVE NORMAL, OR SHORTED TO HIGH SOURCE	MCU	3	UN03
243A03	I (Input)	80387	FMI=4—VOLTAGE BELOW NORMAL, OR SHORTED TO LOW SOURCE	MCU	3	UN03
203A04	I (Input)	80388	FMI=0—DATA VALID BUT ABOVE NORMAL OPERATIONAL RANGE - MOST SEVERE LEVEL	MCU	4	UN04
213A04	I (Input)	80388	FMI=1—DATA VALID BUT BELOW NORMAL OPERATIONAL RANGE - MOST SEVERE LEVEL	MCU	4	UN04
223A04	I (Input)	80388	FMI=2—DATA ERRATIC, INTERMITTENT OR INCORRECT	MCU	4	UN04

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Regulations for working on the lubricating oil system

Do not work on the running engine!
Smoking and naked lights are prohibited!
Be careful with hot lubricating oil. Danger of scalding!

Ensure the highest degree of cleanliness when working on the lubricating oil system.
Carefully clean the area around the components concerned. Blow wet parts dry with compressed air.
Observe safety regulations and national regulations when working with lube oils!
Dispose of leaking lube oil and filter elements according to regulations. Do not allow used lubricating oil to seep into the ground.
Do a trial run after all work. Pay attention to leakage and lube oil pressure and then check the engine lube oil level.



Checking the lubricating oil level.

Lack of lube oil or overfilling lead to engine damage.
The lubricating oil level may only be checked when the engine is horizontal and switched off.
Only check lubricating oil level whilst warm, at least 5 minutes after shutting down.

Be careful with hot lubricating oil. Danger of scalding!
Do not pull out the dipstick while the engine is running. Danger of injury!

- Pull out the lubricating oil dipstick and wipe off with a lint-free, clean cloth.
- Insert the lubricating oil dipstick as far as it goes.
- Remove the lubricating oil dipstick and read the lubricating oil level.
- The lubricating oil level must always be between MIN- and MAX-1 markings! If necessary, fill up to MAX-marking.

Changing the lubricating oil

- Warm up engine (lubricating oil temperature > 80 °C).
- Position the engine or vehicle so as to be level.
- Shut down engine
- Position a collecting vessel under the lubricating oil drain plug .
- Unscrew the lubricating oil drain plug, drain the lubricating oil.
  - In the case of agricultural technology engines with a separate oil pan, both oil drain plugs must be unscrewed.
- Turn in and tighten lubricating oil drain plug fitted with new sealing ring.

  Tightening torque:

  55 Nm
- Fill in lubricating oil.
  - Quality/viscosity information 44
  - Filling quantity 78
- Run the engine warm (lubricating oil temperature > 80 °C).
- Position the engine or vehicle so as to be level.
- Check lubricating oil level, if necessary re-fill

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07.27.60 Diesel engine control unit structural diagram

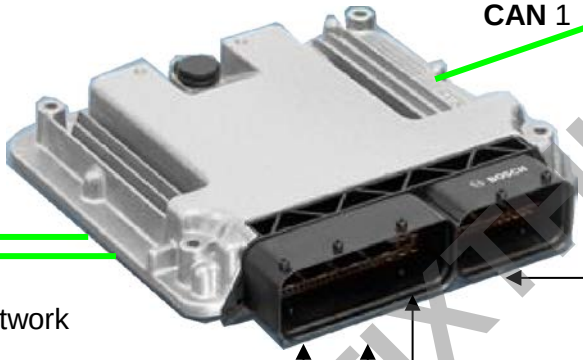


Combo-tool



Diagnostic interface connector

ECU = **E**ngine **C**ontrol **U**nit
Diesel engine control unit



CAN 1

CAN 2

CAN J1939
Control **A**rea **N**etwork



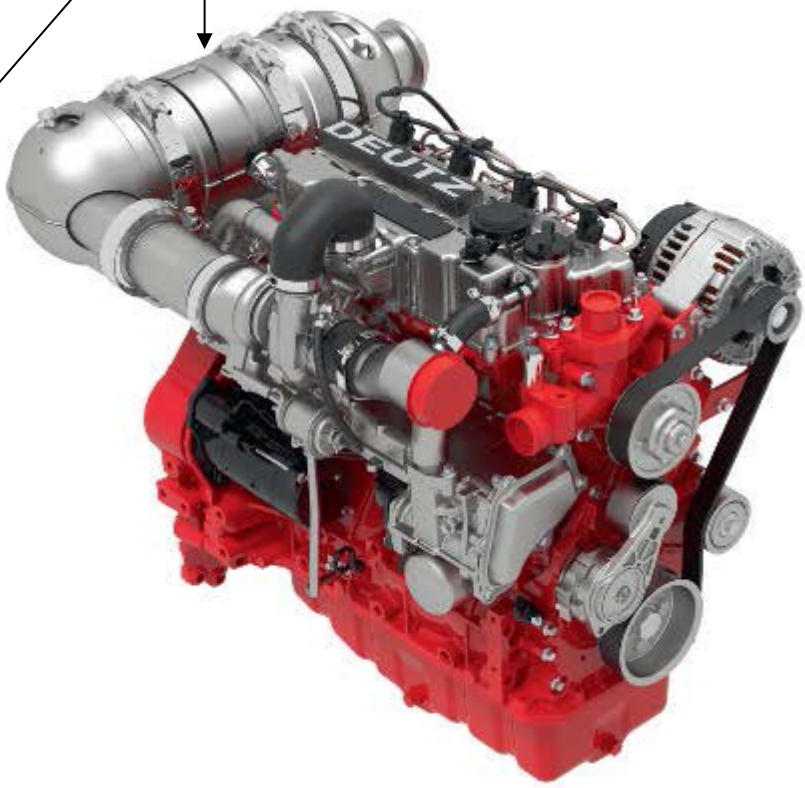
Engine emergency start switch



Fixed speed switch



Foot throttle pedal



Deutz TCD 3.6 L04 diesel engine

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Faults and corrective measures

Faults	Causes	Measures
Engine does not start up or starts up with difficulty	Not disconnected (if possible)	Check coupling
	Fuel tank empty	Tanks
	Fuel suction pipe blocked	Check
	Starting limit temperature not reached	Check
	Cold starting device	Check/replace
	Wrong SAE viscosity class of the engine lubricating oil	Change lubricating oil
	Fuel quality does not comply with operating manual	Change the fuel
	Battery defective or not charged	Check battery
	Cable connections to the starter loose or oxidised	Check cable connections
	Starter defective or pinion doesn't mesh	Check starter
	Air filter soiled/turbocharger defective	Check/replace
	Air in fuel system	Vent the fuel system
	Compression pressure too low	Checking the compression pressure
	Exhaust gas backpressure too high	Check
	High pressure pipe leaking	Check/replace
	High-pressure pump defective	Check/replace
Engines starts up, but runs irregularly or misfires	Exhaust gas backpressure too high	Check
	Compression pressure too low	Checking the compression pressure
	Cold starting device	Check/replace
	Air in fuel system	Vent
	Fuel filter contaminated	Clean
	Fuel quality does not comply with operating manual	Change the fuel
	Injector defective	Change
	High pressure pipe leaking	Check/replace
	Engine cable harness defective	Check/replace

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02.27.31 Technical data

ENGINE Tier 4 final

Engine type	Unit	Description
Manufacturer:		Deutz
Type:		TCD 3.6 L4
Operation		Four-stroke diesel engine
Displacement		Turbocharger with charge cooler
Cooling type		Water cooling
Number of cylinders		4
Cylinder arrangement		In line
Bore/stroke	mm	98/120
Total displacement	cm^3	3,621
Combustion		Direct injection
Fuel injection system		Common rail
Exhaust gas recirculation		Cooled externally
Exhaust gas after-treatment		Diesel oxidation catalyst (DOC)
Exhaust gas after-treatment		Selective catalytic reduction (SCR) catalytic converter
Exhaust gas after-treatment		Diesel particle filter *(optional)*
Valves per cylinder		2
Firing sequence of the engine *Direction of rotation viewed on flywheel*		1-3-4-2
Engine power to ISO 3046	kW/HP	74.4/101
Speed (nominal speed)	rpm^{-1}	2,000
High idle:	rpm^{-1}	2,150 $^{+50}$
Low idle:	rpm^{-1}	950 $^{+50}$
Engine oil pressure: Low idle (warm)	bar	1.3
Engine oil pressure: High idle (warm)	bar	2.3
Spec. fuel consumption at full load:	g/kWh	218
Valve lash control no longer necessary		Hydraulic tappet
V-belt tension V-belt AVX 13 (width: 13 mm)	N	Pre-load/re-load 650 $^{\pm 50}$ / 400 $^{\pm 50}$
V-ribbed belt tension		Automatically tensioning spring-loaded idler pulley

For further data: see the engine operating instructions

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05.00.01 General setting instructions

The following measurement and setting instructions contain details and information that are required for the correct measurements and settings.
As with all maintenance and repair work, accident prevention regulations are binding.

For additional explanations, or if anything is unclear, please get in contact with our customer service department's technical support by telephone or by fax.

Measurements and settings of hydraulic units and components that are of great significance are primarily described.
The sequence of the individual measurement and settings tasks should be paid particular attention during troubleshooting and resetting.

Caution

All measurement and settings work **must** be performed with a hydraulic oil temperature of **50 - 60°C**.

Furthermore, the stated engine speed data should be strictly adhered to so that the required liter quantities are ensured.
When monitoring and setting high-pressure blast valves, main relief valves, and secondary valves, particular care is to be taken.

If individual settings to units and components are to be changed so that other measurements can be performed, the original settings must be restored following completion of the work.
Adjustments to secondary valves are only to be performed if these are below the pressure cut-off or below the main relief valve.

These measurement and setting instructions are not claimed to be exhaustive.
The data cited is not subject to the modification service.
We also reserve the right to make improvements as part of technical further development without changing the measurement and setting instructions.

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Assignment of the DEUTZ maintenance and service schedules to the maintenance intervals

Routine maintenance work plan TD/TCD 3.6 L4			
Stage	**Activity**	**To be performed by:**	**Maintenance interval every ..... operating hours (oh)**
E10	Initial commissioning	Authorised qualified personnel	When commissioning new or overhauled engines
E20	Daily inspection	Operator	1x daily or every 10 oh in continuous operation
E30	Maintenance	Qualified personnel	500 [1) 2) 3)]
E40	Extended maintenance I		1,000 [3)]
E50	Extended maintenance II	Authorised qualified personnel	3,000 [3)]
E70	Major overhaul		5,000 [3) 4)]
1)	The lubricating oil load may be high depending on the application. The lubricating oil change interval must be halved here 44.		
2)	Specification for lubricating oil change interval, based on lubricating oil quality DQC III.		
3)	The display of the operating hours should be ensured by the device manufacturer. The engine operating hours are recorded by the control unit. Enquiry via the CAN bus and display in a display or creation/display via electromechanical counter.		
4)	The best time for a general overhaul depends to a great extent on the load, application and ambient conditions and the care and maintenance of the engine during the operating time. Your DEUTZ partner will advise you on determining the best time for a general overhaul.		

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09.27.11 Keypad operation



1 Function button with symbol for function
2 LED (status indicator)
3 Number block (number input - *e.g. for immobilizer PIN code*)
4 ENTER (Confirm program - *Save*)
5 Point (Clear number input - *Clear entered numbers*)

	Working floodlight front		Working floodlight, rear (optional)		Rotating beacon (optional)
	Front wiper		Front windshield washer		Transmission control (optional)
	Rear wiper		Rear windshield washer		Heater fan
	Activation working hydraulics		Additional control circuit 1		Float position continuous operation

The machine is operated primarily via the keypad.
Depending on the function, the corresponding button must be operated once or several times.
The functions which are initiated using the keypad are also shown in parallel on the menu "Machine functions" of the TFT display

(Description: see also the operating instructions).

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1.200.01. Safety and accident prevention

1 Introductory remarks

Read the operating instructions thoroughly and follow the notes on safe operation before starting up the earth-moving machine.

National safety regulations - e.g. the Accident Prevention Regulations, "Earth-Moving Machinery" (VBG 40) and "Vehicles" (VBG 12) in the Federal Republic of Germany - must also be complied with when operating the earth-moving machine.

In addition to the operating instructions, legal regulations governing road safety and accident prevention measures must also be observed. Such requirements could also apply with respect to the handling of hazardous goods or the wearing of personal safety gear, for example.

Furthermore, safety requirements governing work in particular locations (tunnels, adits, quarries, pontoons, contaminated areas, etc.) must likewise be observed.

2 Intended use

The earth-moving machine with standard bucket equipment is intended solely for work which is suitable for the function of the machine and its work attachments.

Such work involves loosening, taking up, transporting and dumping soil, rock, or other materials as well as loading these materials on trucks, conveyor belts, or other means of transport, when the transport of the material is normally done by positioning the earth-moving machine.

The assembly of special work attachments – such as multi-purpose bucket, side-dump bucket, broom, fork lift attachment, etc. – makes corresponding applications possible.
Any usage above and beyond that specified here – e.g. the transport of persons or the usage of the lift equipment as a work platform – is regarded as improper use. The supplier cannot be held responsible for any damage resulting from improper use. The risk is borne by the user alone.

Strict compliance with the operating and maintenance instructions and the performance of maintenance work, as well as adherence to the maintenance intervals is also part of intended use.

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Engine type designation

This manual covers the following engine types

TD 3.6 L4

TCD 3.6 L4

TCD	
T	Exhaust gas turbocharger
C	Charge air cooler
D	Diesel

3.6	
3.6	Displacement in litres

L4	
L	in a row
4	Number of cylinders

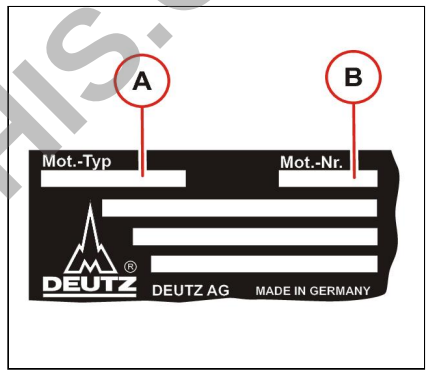
Emissions legislation

The engine and the corresponding EAT system (**E**xhaust **A**fter **T**reatment) are adapted to each other and linked by an appropriate electronic controller.
They are only certified by the responsible authorities and comply with the permissible exhaust limits in this combination. Operation of the engine with other EAT systems is not allowed.

The engines of these operating instructions fulfill the following exhaust emissions regulations	
TCD 3.6 L4 With exhaust aftertreatment system	
USA	EPA Tier 4 final
EU	Stage IV
EU	Stage V
TD 3.6 L4 < 56 kW Without exhaust aftertreatment system	
USA	EPA Tier 4 final
EU	Stage IV

The exact certification is printed on the engine rating plate.

The engines of this operating manual may only be used with a functioning exhaust aftertreatment system (provided this is included in the DEUTZ scope of deliver).



Rating plate

The type (A), engine number (B) and performance data are stamped on the rating plate.

The engine type and number must be stated when purchasing spare parts.

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Faults	Causes	Measures
Engine lacks power	Lubricating oil level too high	Check lubricating oil level, if necessary drain
	Throttle valve defective	Check/replace
	Exhaust gas recirculation, actuator defective	Check/replace
	Fuel suction temperature too high	Check system
	Fuel quality does not comply with operating manual	Change the fuel
	Air filter soiled/turbocharger defective	Check/replace
	Air filter maintenance indicator / service gauge defective	Check/replace
	Fan defective/V-rib belt torn or loose	Check fan/V-belt, change if necessary
	Charge air pipe leaking	Check charge air line
	Charge air pipe soiled	Clean
	High pressure pipe leaking	Check/replace
	Injector defective	Change
	Throttle valve defective	Check/replace
	Exhaust gas recirculation, actuator defective	Check/replace
	Exhaust gas backpressure too high	Check/clean
	Exhaust gas turbocharger defective	Change
Engine performs poorly and diagnostic lamp lights	Engine electronics reduce performance	Please contact your DEUTZ partner
Engine doesn't work on all cylinders	High pressure pipe leaking	Check/replace
	Injector defective	Change
	Compression pressure too low	Checking the compression pressure
	Engine cable harness defective	Check/replace
Engine has no, or too little, lubricating oil pressure	Lubricating oil pressure too low	Fill up lubricating oil
	Engine is tilted too far	Check engine mounting / reduce inclination
	Wrong SAE viscosity class of the engine lubricating oil	Change lubricating oil
	Lubricating oil pressure sensor defective	Check/replace
	Lubricating oil control valve jammed	Check/clean

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Oil pressure control valve (gate valve)

Conventional tools

– Safety information / User information

DANGER
Hot parts!
Risk of burns / Risk of explosion!
Let the engine / components cool down sufficiently (to at least ambient temperature).

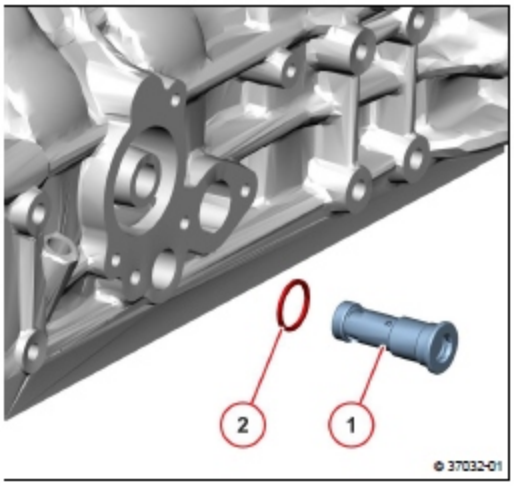
Collect escaping operating media in suitable vessels and dispose of them according to regulations.
For emptying and filling the engine, the corresponding operating manual must be observed.

For the tightening procedure according to torque using a torque wrench, a maximum variation of the tightening torque of +/- 10% is permissible.

Disassembly / Assembly

(1) Oil pressure control valve
110 Nm
(2) Sealing ring

Use a new sealing ring.

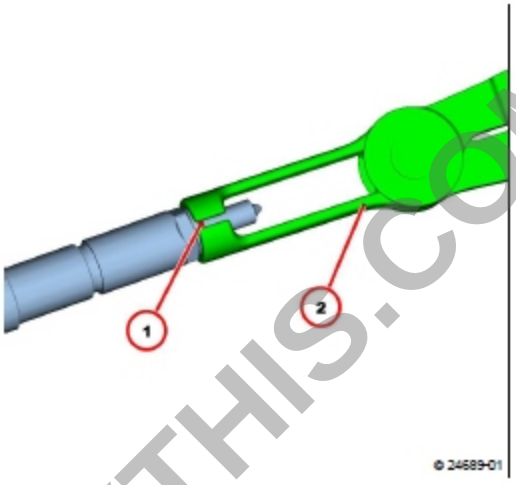


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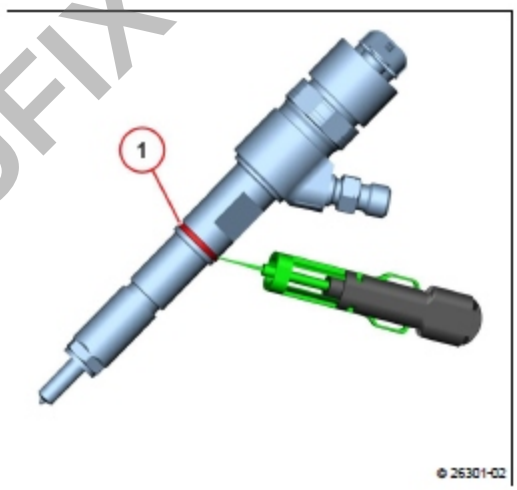
ATTENTION
Do not brush down nozzle head of the injector. Do not damage the nozzle head on the injector during disassembly of the sealing disc (1).

- Grip fixed sealing disc (1) using the assembly pliers (2) and pull off with slight turning movements.
- Visually inspect components.



- Carefully remove O-ring (1) from injector with disassembly tool.

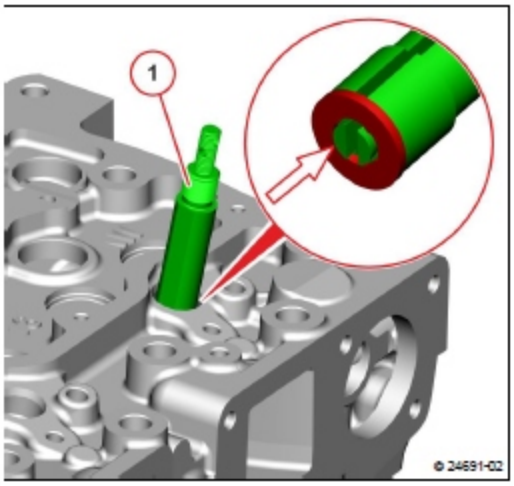
ATTENTION
Do not damage the injector.



Removing fixed sealing disc at cylinder head

- Insert extraction device (1).

The supports (arrow) must rest in the bore of the sealing disc.



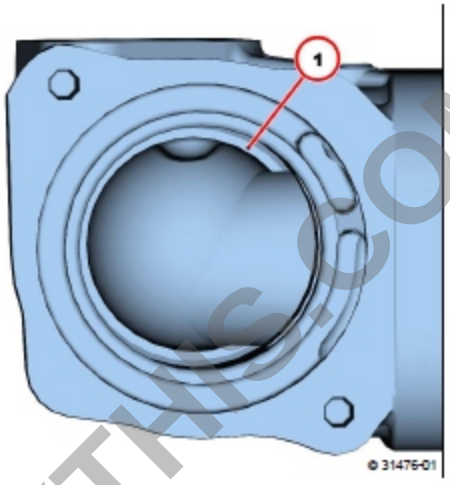
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ATTENTION
Observe the spare parts documentation.
Note the version of the cooler.

Version 1:
Contact surface (1) is not continuous.

ATTENTION
No sealing disc may be installed.

I

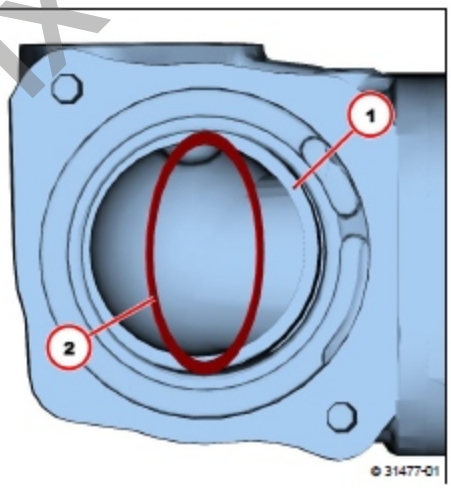


Version 2:
Contact surface (1) is continuous.

- Clean the sealing surfaces.
- Insert new sealing disc (2).

ATTENTION
When new, the sealing disc is flat.
Ensure that the installation position is correct.

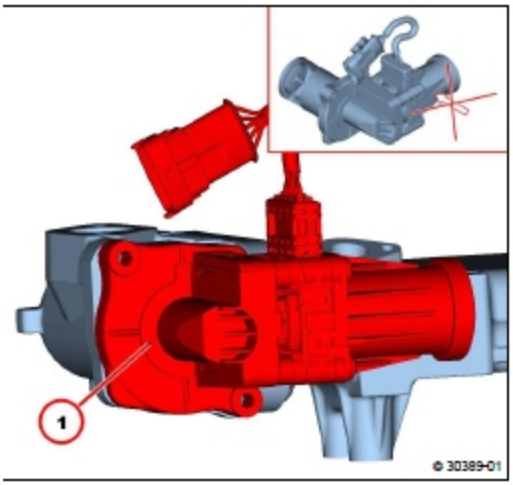
II



- Clean sealing surfaces.

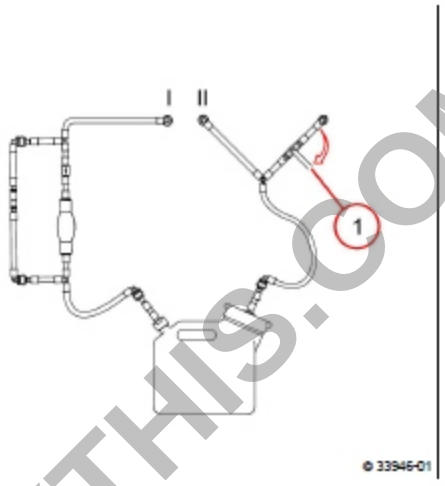
ATTENTION
Do not twist the exhaust gas recirculation valve.
Do not exert force onto the crankcase.
The exhaust gas recirculation valve must not be tightened to the stop via the screws.
Ensure that the installation position is correct.

- Insert exhaust gas recirculation valve (1) evenly to the end stop.



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- Close the stop tap (1).

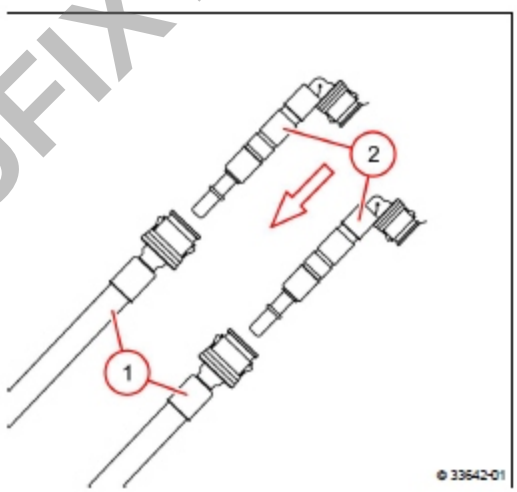


- Removing the metering unit.

  Module 71

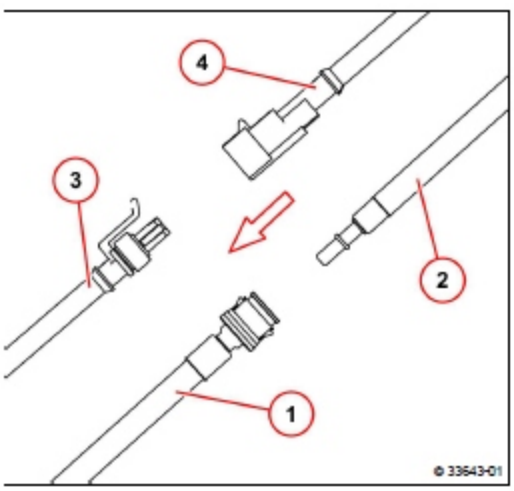
- Close the coolant lines (1) of the metering unit with locking pieces (2).

ATTENTION
Ensure that there is a proper connection.



- Connect equipment-side pipe (1) with hose pipe adapter (2).
- Connect equipment-side cable connection (3) with the extension cable (4).

ATTENTION
Ensure that there is a proper connection.



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Subgroup directory: Function description

Device number	Function description	File number
0600 ► XXXX	**Pilot control device 4TH6**	**06.27.31**

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Die Segementlängen sind laut Toleranzbereich einzuhalten und verstehen sich zwischen Punkt zu Punkt oder von Punkt zu Anschlagteil.

● Punkt

200 mm Segmentlänge

Der Kabelbaum ist mit einem Label/ Klebeetikett zu versehen mit folgenden Informationen:
1. Lieferant
2. Hersteller Artikelnummer/Ä-Index
3. Lieferant Artikelnummer
4. Lieferung-Identifizierung

Alle Adern sind durchgehend mit der Adernzähl-nummer und dem Signalnamen zu bedrucken.
Beispiel: -W1 FV1:F1 Klemme 30

Alle Stecker und Kabelschuhe sind öl-, wasser- und witterungsbeständig mit dem Betriebsmittelnamen zu Kennzeichnen.

Beispiel: -B37:X1

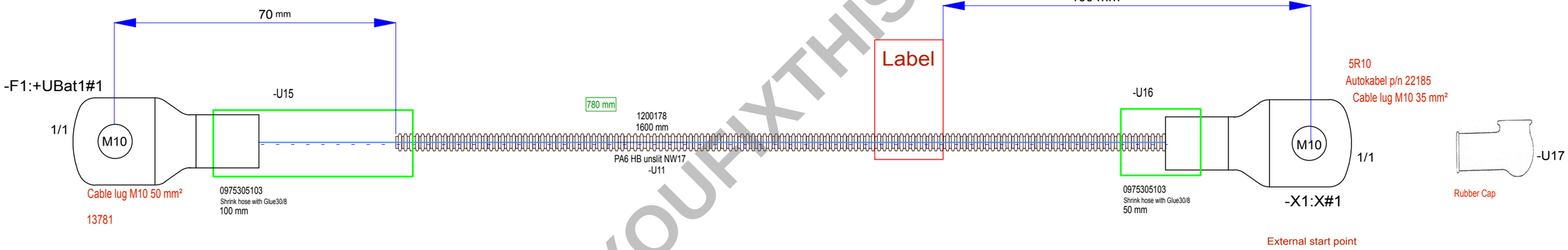
Leitungen die verdrillt werden müssen, sind mit 20-25 Schläge pro Meter zu verdrillen.

Toleranzbereich (in mm)

0 bis 300	+10 / -5
301 bis 500	+15 / -10
501 bis 1000	+20 / -10
1001 bis 2500	+25 / -15
2501 bis 10000	+30 / -20

Die Summe der Einzelstrecken dürfen die angegebenen Toleranzangaben nicht über -/ unterschreiten

/5.G5



-F1:+UBat1#2

1	Kl.30_Fremd	-X1:X:1	-W4	BK	50.00 mm²

-X1:X#2

1	Kl.30_Fremd	-F1:+UBat1:1	-W4	BK	50.00 mm²

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Rev. Index	Revision	Revision No.	Name	Date
e				
d				
c				
b				
a				

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	Date	Name
Designed	20.10.2015	Ulf Kohlrautz
Checked	10.04.2014	Ulf Kohlrautz
Approved		

YANMAR Compact Germany GmbH

Description: Battery - cable
External start point

Type 0102-V02
M.-Nr.:

Origin Project

Drawing number 6437544060

Assignment
Location +5
Sheet 133
No. 72 Sh.

See also previous pages

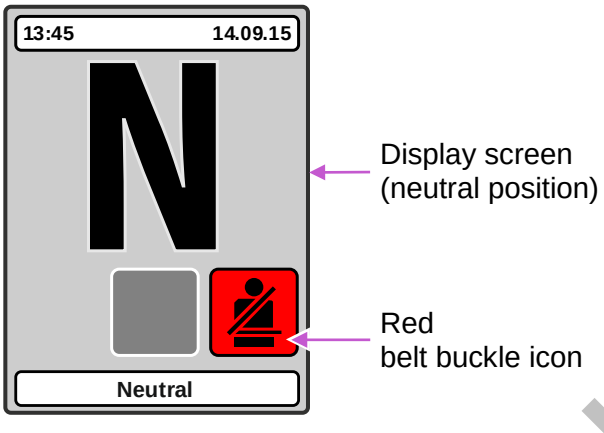
Belt buckle is unfastened while the engine is running and machine is traveling:

If the belt buckle is unfastened while the ***engine is running and the machine is in motion***, the direction-of-travel display reverts automatically to the neutral position.

The warning icon appears on the screen in red.
A warning signal is emitted by the warning buzzer.

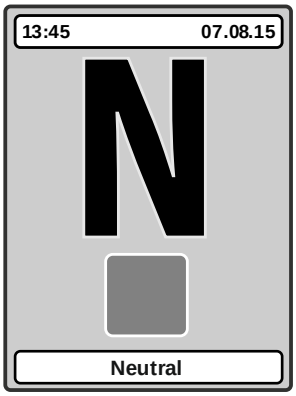


Screen on the combo-tool



Note
Never unfasten the seat belt (belt buckle) while the machine is traveling!

The red warning icon will only disappear and the warning buzzer will only turn off once the direction-of-travel pre-selection lever is in the neutral position or the seat belt is re-fastened.



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Carrying out downtime regeneration

The engine must be put into a "safe condition" for the regeneration:

- Place the engine in an open area at a safe distance away from combustible objects.
- Run the engine until it reaches operating temperature; the coolant temperature must reach at least 75°C.
- Run engine in idle.
- The engine control unit will now require a signal which indicates that the machine is parked safely (stationary signal).

This is carried out by:
– activating the parking brake.

- Enabling via the push button on the switch console next to the operator's seat when the direction of travel is to the right.



The regeneration lamp on the combo-tool is illuminated permanently. 

After successfully enabling the downtime regeneration, the engine automatically increases the speed level.
During downtime regeneration, you are forbidden from using the machine.
The regeneration lasts 35–40 minutes, on average.
Downtime regeneration can be canceled at any time either by pressing the regeneration button again or by revoking the regeneration approval.
Use of the machine during downtime regeneration will also result in cancellation.
The requirement for downtime regeneration remains until it can be completed without any faults.
Certain engine faults lead to excessive soot being produced in the engine. However, this condition cannot be seen because of the diesel particle filter.
In such cases, the diesel particle filter can become contaminated with soot very quickly; sometimes to a degree at which downtime regeneration is no longer permitted by the operator.
Very short intervals between two downtime regenerations (< 10 h) can show the signs of this defect.
Please contact DEUTZ Service.
If the regeneration was completed successfully, the regeneration lamp is switched off.

If the downtime regeneration requirement was not observed and the DPF is overloaded beyond the permitted limits, the filter may only be regenerated by DEUTZ Service.

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			8	132	1	0x80811000	266240	2-2-6	Der Luftmassenmesswert AFS_dm ist rößer als AFS_PhysRng.Min_C Physikalische Bereichsüberprüfung für Luftmassensensor. Detailinformationen fehlen!	The air mass flow AFS_dm is greater than or equal to AFS_PhysRng.Min_C Physical Range Check low for air mass flow sensor No detail informationen!	Luftmasse; über physikalischem Grenzwert	Air mass; over physical limit
			874	157	0	0x80A01300	332544	1-4-7	rail pressure raw value is above maximum offset Rail pressure raw value is intermittent Detailinformationen fehlen!	Rail pressure raw value is intermittent No detail informationen!	Raildruck; zu hoch	Rail pressure; too high
			875	157	1	0x80A11300	332544	1-4-7	rail pressure raw value is above maximum offset the rail pressure sensor will be classified as defect. Detailinformationen fehlen!	rail pressure raw value is above maximum offset No detail informationen!	Raildruck; Grenzwert überschritten	Rail pressure; limit exceedet
X	X	X	877	157	3	0x80A31300	332544	1-4-7	Sensorfehler Raildrucksensor, obere Spannungsgrenze überschritten.	Sensor error rail pressure. Sensor voltage above upper limit.	Raildruck; Spannungsgrenze überschritten	Rail pressure; voltage limit exceeded
X	X	X	878	157	4	0x80A41300	332544	1-4-7	Sensorfehler Raildrucksensor, untere Spannungsgrenze unterschritten.	Sensor error rail pressure. Sensor voltage below lower limit.	Raildruck; Spannungsgrenze unterschritten	Rail pressure; voltage limit below
X			1381	164	2	0x80821400	267264	8-3-9	Raildrucksicherheitsfunktion nicht korrekt ausgeführt	Rail pressure safety function is not executed correctly ()	Raildrucksicherheitsfunktion nicht korrekt	Rail pressure safety function is not correctly
X	X	X	1180	168	0	0x80001500	5376	3-1-8	Sensorwert des Batteriespannungssensors über Grenzwert Batteriespannung; Maximalwert überschritten	Physical range check high for battery voltage	Batteriespannungssensor; Maximalwert überschritten	Battery voltage sensor; limit exceeded
X	X	X	1181	168	1	0x80011500	5376	3-1-8	Sensorwert des Batteriespannungssensors unter Grenzwert Batteriespannung; Minimalwert unterschritten	Physical range check low for battery voltage	Batteriespannungssensor; Minimalwert unterschritten	Battery voltage sensor; limit below
X	X	X	47	168	2	0x80021500	5376	3-1-8	Batteriespannunug zu hoch; Warnschwelle erreicht Batteriespannung Grenzwert überschritten; Warnmeldung wird generiert	High battery voltage; warning threshold exceeded	Batteriespannung; Grenzwert überschritten	Battery voltage; limit exceeded
			48	168	2	0x80021500	5376	3-1-8	Batteriespannung, unterer Grenzwert unterschritten	High battery voltage; shot off threshold exceeded	Batteriespannung; Grenzwert überschritten	Battery voltage; limit below
X	X	X	45	168	3	0x80031500	5376	3-1-8	Sensorwert des Batteriespannungssensors über Grenzwert Sensorfehler Batteriespannung; Signalbereich überschritten	Sensor error battery voltage; signal range check high.	Batteriespannungssensor; Grenzwert überschritten	Battery voltage sensor; limit exceeded
X	X	X	46	168	4	0x80041500	5376	3-1-8	Sensorwert des Batteriespannungssensors unter Grenzwert	Sensor error battery voltage; signal range check low	Batteriespannungssensor; Grenzwert unterschritten	Battery voltage sensor; limit below
			415	171	0	0x80601500	201984	3-1-2	Umgebungstemperatursensor, Temperatur hat mnaximalen physikalischen Grenzwert überschritten	Environment temperature sensor, temperature above upper physical threshold	Umgebungstemperatur; Grenzwert überschritten	Ambient air temperature; limit exceeded
			416	171	1	0x80611500	201984	3-1-2	Umgebungstemperatursensor, Temperatur hat minimalen Grenzwert unterschritten	Environment Temperature Physical Range Check low	Umgebungstemperatur; Grenzwert unterschritten	Ambient air temperature; limit below
X			417	171	3	0x80631500	201984	3-1-2	Sensorfehler SCR-System Umgebungslufttemperatur; DPF-System Lufteintrittstemperatur; Signalbereich überschritten	Sensor error SCR-System environment temperature; DPF-System air inlet temperature; signal range check high	Umgebungstemperatur; Signalbereich überschritten	Ambient air temperature; signal range exceeded
X			418	171	4	0x80641500	201984	3-1-2		Sensor error SCR-System environment temperature; DPF-System air inlet temperature; signal range check low	Umgebungstemperatur; Signalbereich unterschritten	Ambient air temperature; signal range below
			1425	172	0	0x80801500	267520	2-2-6	Umgebungstemperatur über Warnschwelle	air temperature within air filter box above maximum physical value	Umgebungstemperatur; Warnschwelle überschritten	Ambient air temperature; warning threshold exceeded
			1183	172	1	0x80811500	267520	2-2-6	Temperatur Luft Menge; Minimalwert unterschritten	Air inlet filter sensor out of physical range check	Umgebungstemperatur; Signalbereich unterschritten	Ambient air temperature; signal range below
			9	172	2	0x80821500	267520	2-2-6	Ansauglufttemperatursensor unplausibles Signal	Air inlet filter temperature, plausibility error	Ansauglufttemperatur; Signal unplausibel	Air inlet temperature; limit implausible
			981	172	3	0x80831500	267520	2-2-6	Sensorfehler Ansauglufttemperatursensor, oberer Grenzwert überschritten. Sensor Luftmengentemperatur; Batteriekurzschluss oder Kabelbruch	Air flow temperature sensor; short circuit to battery or open load.	Ansauglufttemperatur, Grenzwert überschritten	Air inlet temperature; limit exceeded
			982	172	4	0x80841500	267520	2-2-6	Sensorfehler Ansauglufttemperatursensor, unterer Grenzwert unterschritten Sensor Luftmengentemperatur; Massekurzschluss	Air flow temperature sensor; short circuit to ground	Ansauglufttemperatur, Grenzwert unterschritten	Air inlet temperature; limit below
			483	174	11	0x80CB1500	398592	2-2-7	_Kraftstofftemperatur Signal unplausibel DFC for fuel temperature plausibility check function Detailinformationen fehlen!	DFC for fuel temperature plausibility check function No detail informationen!		
			745	175	0	0x80E01500	464128	1-4-4	Öltemperatur zu hoch; Warnschwelle erreicht	High oil temperature; warning threshold exceeded	Öltemperatur; zu hoch	Oil temperature; too high
	X	X	746	175	0	0x80E01500	464128	1-4-4	Öltemperatur zu hoch; Abschaltschwelle erreicht	High oil temperature; shut off threshold exceeded	Öltemperatur; zu hoch	Oil temperature; too high
			1171	175	2	0x80E21500	464128	1-4-4	Kundenseitiger Wert für Öltemperatur unplausibel Öltemperatur kundenseitig; Signal unplausibel	Customer oiltemperature: signal unplausible	Öltemperatur; Signal unplausibel	Oil temperature; signal implausible
			743	175	3	0x80E31500	464128	1-4-4	Sensorfehler Öltemperatur; Signalbereich überschritten	Sensor error oil temperature; signal range check high	Öltemperatur; Signalbereich überschritten	Oil temperature; signal range exceeded
			744	175	4	0x80E41500	464128	1-4-4	Sensorfehler Öltemperatur; Signalbereich unterschritten	Sensor error oil temperature; signal range check low	Öltemperatur; Signalbereich unterschritten	Oil temperature; signal range below
X	X	X	388	190	0	0x80C01700	399104	2-1-4	Überdrehzahl Detektion in der Komponente Engine Protection	Engine speed above warning threshold Overspeed detection in component engine protection	Motordrehzahl; Warnschwelle überschritten	Engine speed; warning threshold exceeded
X	X	X	389	190	0	0x80C01700	399104	2-1-4	Motordrehzahl über Warnschwelle (FOC-Level 1)	Engine speed above warning threshold (FOC-Level 1)	Motordrehzahl; Warnschwelle überschritten	Engine speed; warning threshold exceeded
X	X		421	190	2	0x80C21700	399104	2-1-3	Offsetfehler zwischen Kurbelwelle und Nockenwelle	Offset angle between crank- and camshaft sensor is too large.	Versatz zwischen Kurbelwelle und Nockenwelle	Offset between crank- and camshaft sensor
X	X	X	419	190	8	0x80C81700	399104	2-1-2	Sensor Nockenwellendrehzahl; Signal gestört	Sensor camshaft speed; disturbed signal	Motordrehzahl; Signal gestört	Engine speed; signal disturbed
X	X	X	422	190	8	0x80C81700	399104	2-1-2	Fehlerhaftes Kurbelwellensensorsignal Sensor Kurbelwellendrehzahl; Signal gestört	Sensor crankshaft detection; out of range, signal disrupted; disturbed signal	Kurbelwellendrehzahl, Signal gestört	Crankshaft spped; signal disturbed
X	X	X	390	190	11	0x80CB1700	399104	2-1-4	Motordrehzahl über Warnschwelle (FOC-Level 2)	Engine speed above warning threshold (FOC-Level 2)	Motordrehzahl; Warnschwelle überschritten	Engine speed; warning threshold exceeded
X	X	X	420	190	12	0x80CC1700	399104	2-1-2	Sensor Nockenwellendrehzahl; kein Signal	Sensor camshaft detection; out of range, signal disrupted; no signal	Kurbelwellen- oder Nockenwellendrehzahl, kein Signal	Crankshaft or Camshaft speed; no signal
X	X	X	423	190	12	0x80CC1700	399104	2-1-2	Fehlendes Kurbelwellensensorsignal Sensor Kurbelwellendrehzahl; kein Signal	Speed detection; out of range, signal disrupted Sensor crankshaft speed; no signal	Kurbelwellen- oder Nockenwellendrehzahl, kein Signal	Crankshaft or Camshaft speed; no signal
X	X	X	391	190	14	0x80CE1700	399104	2-1-4	Motordrehzahl über Warnschwelle (Schubbetrieb)	Engine speed above warning threshold (Overrun Mode)	Motordrehzahl über Warnschwelle	Engine speed; warning threshold exceeded
X			1222	190	14	0x80CE1700	399104	2-1-2	Nockenwellen- und Kurbelwellensensor Signal nicht verfügbar auf CAN-Bus	Camshaft- and Crankshaft speed sensor signal not available on CAN	Nockenwellen- und Kurbelwellensensor; kein Signal	Cam- and Crankshaft speed; no signal
			791	411	0	0x80603300	209664	6-9-3	Differenzdrucksensorwert AGR Venturiventil über Grenzwert, zu hoch. signal range check low error of pressure control valve AD-channel	delta pressure across venturi in EGR line above physical high limit	Differenzdruck Venturi AGR; Grenzwert überschritten	Difference pressure EGR; limit exceeded
			793	411	0	0x80603300	209664	6-9-3	Plausibilitätsprüfung Fehler für AGR-Delta-Drucksensor.	Plausibility Check fault for deviation of desired and actual EGR-mass flow, where the latter is calculated out of EGR Delta Pressure Sensor	Differenzdruck Venturi AGR; Grenzwert überschritten	Difference pressure EGR; limit exceeded
X			795	411	3	0x80633300	209664	6-9-3	Sensor Differenzdruck Venturieinheit (AGR). Sensorfehler Differenzdruck Venturieinheit (AGR), Signalbereich überschritten.	Sensor error differential pressure Venturiunit (EGR), signal range check low.	Differenzdruck Venturi AGR; Signal überschritten	Difference pressure EGR; limit exceeded
X			381	411	4	0x80643300	209664	6-9-3	AGR Differenzdruck; Minimalwert unterschritten	Physical range check low for EGR differential pressure	AGR Differenzdruck; Minimalwert unterschritten	Difference pressure EGR; limit below
X			796	411	4	0x80643300	209664	6-9-3	Sensorfehler Differenzdruck Venturieinheit (AGR), Signalbereich übererschritten. Sensorfehler Differenzdruck Venturieinheit (AGR), Signalbereich unterschritten.	Sensor error differential pressure Venturiunit (EGR), signal range check high.	AGR Differenzdruck; Minimalwert unterschritten	Difference pressure EGR; limit below
X			1007	412	3	0x80833300	275200	6-8-2	Sensorfehler Temperatur nach AGR Kühler; Signalbereich überschritten	Electrical error EGR cooler downstream temperature. Signal range check high.	Temperatur nach AGR Kühler; Signal überschritten	Temperature downstream EGR cooler; limit exceeded

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