

SCORPION

7044 (K24 / 416-11)

7050 (K25 / 416-17)

7055 (K26 / 416-13)

9055 (K27 / 416-15)

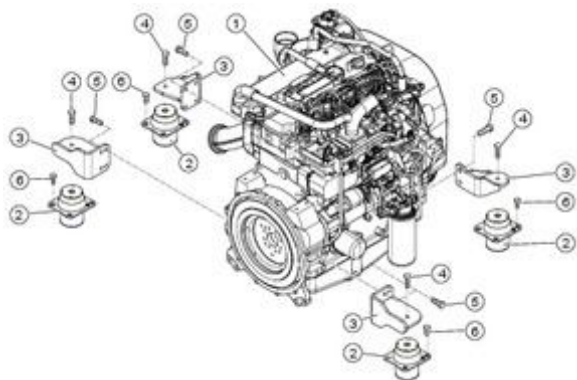
Repair manual

Validity of manual

Machine	Type	Sub-type	Vehicle identification number	
			from	to
SCORPION 7044	K24 (416-11)	250	416_110001	416_119999
SCORPION 7044	K24 (416-11)	260	416_110001	416_119999
SCORPION 7044	K24 (416-11)	350	416_110001	416_119999
SCORPION 7044	K24 (416-11)	360	416_110001	416_119999
SCORPION 7050	K25 (416-17)	250	416_170001	415_179999
SCORPION 7050	K25 (416-17)	260	416_170001	415_179999
SCORPION 7050	K25 (416-17)	350	416_170001	415_179999
SCORPION 7050	K25 (416-17)	360	416_170001	416_179999
SCORPION 7055	K26 (416-13)	250	416_130001	416_139999
SCORPION 7055	K26 (416-13)	260	416_130001	416_139999
SCORPION 7055	K26 (416-13)	350	416_130001	416_139999
SCORPION 7055	K26 (416-13)	360	416_130001	416_139999
SCORPION 9055	K27 (416-15)	250	416_150001	416_159999
SCORPION 9055	K27 (416-15)	260	416_150001	416_159999
SCORPION 9055	K27 (416-15)	350	416_150001	416_159999
SCORPION 9055	K27 (416-15)	360	416_150001	416_159999

	Special tool (II)	Pcs.
1	Ring bolt 00 0242 060 0	1

Technical specifications



Ⓟ

	Value	CCN	Remark / designation	
1	350 kg		Deutz TCD 3.6 L4 diesel engine	
2	1.5 kg		Engine support	
3			Support	
4	79 Nm		Engine support console bolts	
5	79 Nm		Engine console bolts	
6	46 Nm		Engine support - machine frame bolts	
Tightening torques not specified, see "Introduction / Tightening torques" chapter				

NOTICE

Lubricants and fuels end up in the environment.

Environmental pollution

- ▶ Collect and store lubricants and fuels in suitable containers and dispose of them properly.


CAUTION

Contact with hot liquids or machine parts.

Danger of burns

- ▶ Wear suitable protective clothing.
- ▶ Let liquids or machine parts cool down.
- ▶ Comply with instructions.

Removal

-  - Switch off and secure the machine against rolling away.

- Let the diesel engine cool down.
- Disconnect the battery isolating relay.
 - [Battery isolation relayK141-KRA](#)
 - [Battery isolating relay](#)
- Drain the coolant.
 - [Operator's Manual](#)
- Drain the engine oil.
 - [Operator's Manual](#)
- Disconnect the battery.
 - [Battery](#)
- Remove engine bonnet.
 - [Engine bonnet](#)
- Remove the EAT console.
 - [EAT console](#)
- Remove the V-belt cover.
 - [V-belt cover](#)
- Disconnect the electric starting motor.
 - [Electric starting motorM001-KRA](#)
 - [Electric starting motor](#)
- Remove air conditioner compressor.
 - Do **not** remove the lines from the air conditioner compressor.
 - [Diesel engine repair manual](#)
- Remove the air compressor.
 - [Diesel engine repair manual](#)



- ▶ Slacken off clamp (1) and remove coolant hose.
- ▶ Unlock and disconnect connector (2).
- ▶ Remove cable band (4).
- ▶ Slacken off clamps (3) on both sides of the coolant hose and remove the hose.
- ▶ Slacken off union nut (6) and remove the hose.
- ▶ Slacken off clamps (5) on both sides of the charge air hose and remove the hose.
- ▶ Plug all openings tightly.



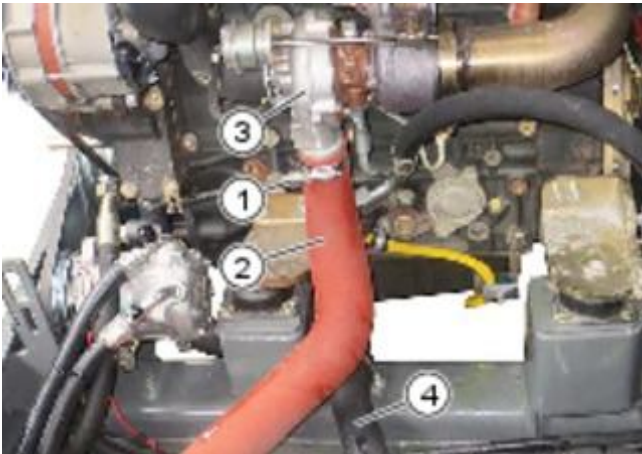
▢

- ▶ Unlock and disconnect connector (1).



▢

- ▶ Unscrew clamp at (1).
- ▶ Slacken off clamp (2) and disconnect hoses.
- ▶ Unlock and remove the connector (3).



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- ▶ Slacken off clamp (1).
- ▶ Pull hose (2) off of the turbocharger (3).
- ▶ Remove the coolant hose (4).
Plug all openings tightly.



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- ▶ Secure the ground drive hydraulic pump (2) against falling down with suitable lifting straps.
- ▶ Unscrew all bolts (1).
- ▶ Unscrew clutch (3) from the ground drive hydraulic pump (2).
- ▶ Unscrew the earthing strap.



⌵

⚠ WARNING

Lifting heavy components.

Risk of death or serious injury.

- ▶ Use a lifting tool with a sufficient bearing load.
- ▶ Use a lifting tool that operates reliably.
- ▶ Use the lifting tool on solid and even ground.
- ▶ Attach the lifting tool to the component at the intended or a suitable position.
- ▶ Only use faultless and sufficiently dimensioned lifting accessories.
- ▶ Protect lifting accessories against sharp corners and edges, for example using protectors.

Use special tool (II):

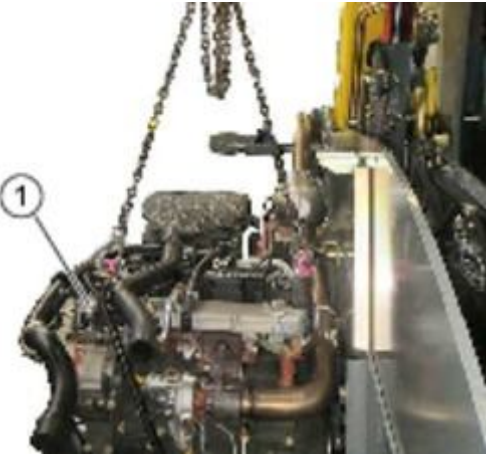
Diesel engine

- ▶ Screw on ring bolts from the special tools at (1).
- ▶ Suspend the diesel engine in a suitable lifting equipment.



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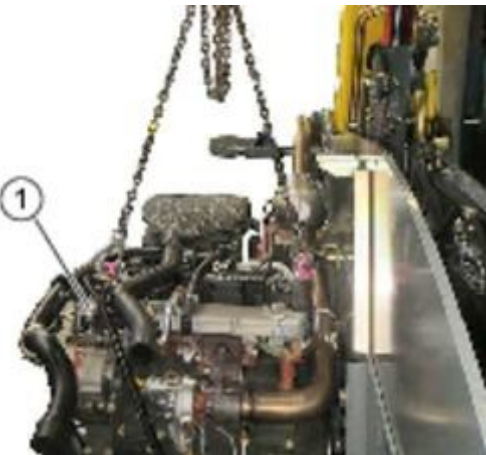
- ▶ Unscrew engine support bolts (1).



⤵

- ▶ Ensure that **all** cables and lines are disconnected from the engine.
- ▶ Lift out the diesel engine (1) carefully.

Installation



⤵

WARNING

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- ▶ Insert diesel engine (1) with a suitable lifting device.



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- ▶ Screw on engine support bolts (1).
Tightening torque:
Diesel engine



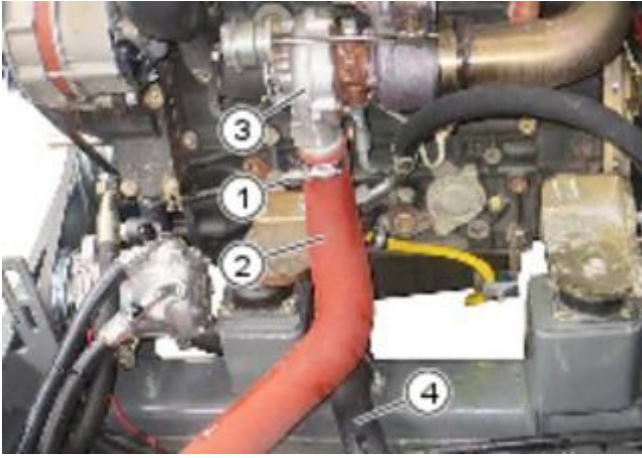
⌘

- ▶ Remove the lifting device from the diesel engine and unscrew ring bolts (1).



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- ▶ Install ground drive hydraulic pump (2) on clutch (3).
- ▶ Tighten all bolts (1).
Tightening torque:
Diesel engine
- ▶ Bolt down the earthing strap.



▫

- ▶ Fit the coolant hose (4).
- ▶ Install hose (2) on turbocharger (3).
- ▶ Screw on clamp (1).



▫

- ▶ Insert and lock the connector (3).
- ▶ Slacken off clamp (2) and disconnect hoses.
- ▶ Unscrew clamp at (1).



▫

- ▶ Insert and lock the connector (1).



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- ▶ Insert charge air hose and fasten it with clamps (5) on both sides.
- ▶ Screw on hose with union nut (6).
- ▶ Insert coolant hose and fasten it with clamps (3) on both sides.
- ▶ Fix hoses with cable bands (4).
- ▶ Insert and lock the connector (2).
- ▶ Insert coolant hose and fasten it with clamp (1).

- Install the air compressor.

Diesel engine repair manual

- Install air conditioner compressor.

Diesel engine repair manual

- Connect the electric starting motor.

[Electric starting motor M001-KRA](#)
[Electric starting motor](#)

- Install the V-belt cover.

[V-belt cover](#)

- Install the EAT console.

[EAT console](#)

- Install the engine bonnet.

[Engine bonnet](#)

- Connect the battery.

[Battery](#)

- Top up engine oil.

Operator's Manual

- Top up coolant.

Operator's Manual

- Connect the battery isolating relay.

[Battery isolation relay K141-KRA](#)
[Battery isolating relay](#)

Diesel engine

Applies to:

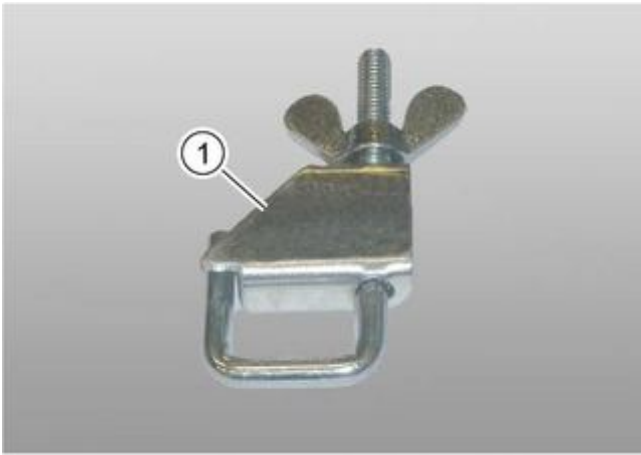
Deutz TCD 4.1 L4 diesel engine

Work preparation

Tool:

- ▶ Suitable lifting device
Load-bearing capacity **at least 500 kg**
- ▶ Suitable lifting gears (ropes and shackles) with appropriate load-bearing capacity.
- ▶ Oil collecting tank
- ▶ Coolant collecting tank
- ▶ Plugs (different sizes) for closing oil lines.

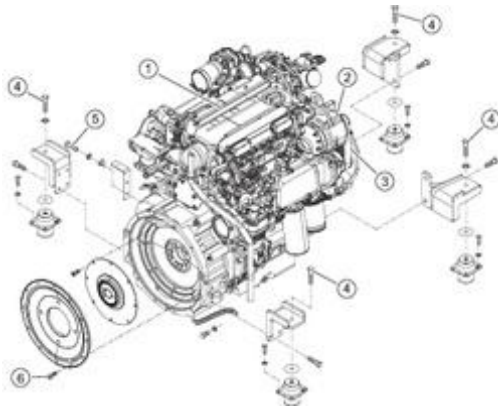
Special tool



▶

	Special tool (I)	Pcs.
1	Hose clamp 00 0181 867 0	1

Technical specifications



▶

	Value	CCN	Remark / designation	
1	400 kg		Deutz TCD 4,1 L4 diesel engine	

	Value	CCN	Remark / designation	
2		G001-KRA	Alternator	<u>AlternatorG001-KRA Alternator</u>
3			Alternator drive belt	
4	79 Nm		Engine support mounting bolts	
5	79 Nm		Bracket mounting bolts	
6	46 Nm		Flange mounting bolts	
Tightening torques not specified, see "Introduction / Tightening torques" chapter				

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CAUTION

Contact with hot liquids or machine parts.

Danger of burns

- ▶ Wear suitable protective clothing.
- ▶ Let liquids or machine parts cool down.
- ▶ Comply with instructions.

Removal

- Switch off and secure the machine against rolling away. Operator's Manual
- Let the diesel engine cool down.
- Disconnect the battery isolating relay. Battery isolation relayK141-KRA
Battery isolating relay
- Drain the coolant. Operator's Manual
- Drain the engine oil. Operator's Manual
- Disconnect the battery. Battery
- Remove engine bonnet. Engine bonnet
- Remove the EAT console. EAT console
- Remove the V-belt cover. V-belt cover

- Remove air conditioner compressor.
 - Do **not** remove the lines from the air conditioner compressor.

- Disconnect the electric starting motor.

- Remove the air compressor.



p

- ▶ Slacken off clamps (1).
- ▶ Remove the charge air hose (2).



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- ▶ Unscrew the cable (1) from connection D+.
- ▶ Unscrew the cable (2) from connection B+.



p

- ▶ Unlock and disconnect the cable plugs (1).



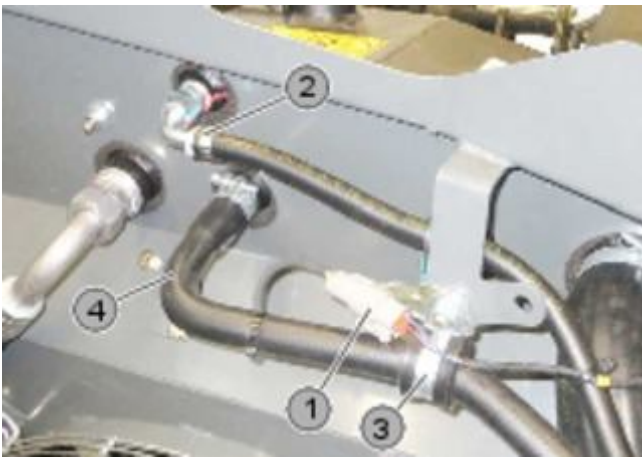
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- ▶ Slacken off clamp (1).
- ▶ Remove the charge air hose (2).



▢

- ▶ Unscrew bolt (1).
- ▶ Remove coolant hoses (2) and (3).



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- ▶ Unlock and disconnect connector (1).
- ▶ Unscrew hose (2).
- ▶ Unscrew hose clamp (3).
- ▶ Pull off hose (4).

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