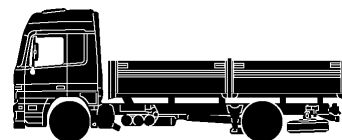




**This preliminary information is not subject to updating and hence shall not be archived.
The current version will be available in WIS net online in approximately two days, in WIS net offline it will be introduced with the update 04/2010**



Group 14

SI14.40-W-0011A

03.03.2010

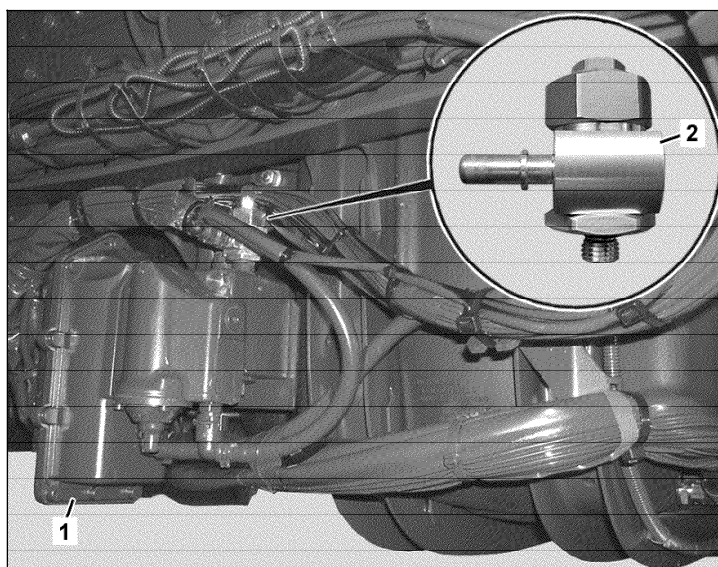
see Modification Note

SI14.40-W-0011A	Service Information: Repair solution for pressure reducing valve in pump module of exhaust aftertreatment system	3.3.10
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MODEL 930, 932, 933, 934, 940, 942, 943, 944, 950, 952, 953, 954 with CODE (MS4) BlueTec 4
MODEL 930, 932, 933, 934, 940, 942, 943, 944, 950, 952, 953, 954 with CODE (MS5) BlueTec 5
MODEL 970, 972, 974, 975, 976 with CODE (MS4) BlueTec 4
MODEL 970, 972, 974, 975, 976 with CODE (MS5) BlueTec 5

Shown: pump module A 000 140 04 78 with repair solution, external pneumatic pressure reducing valve

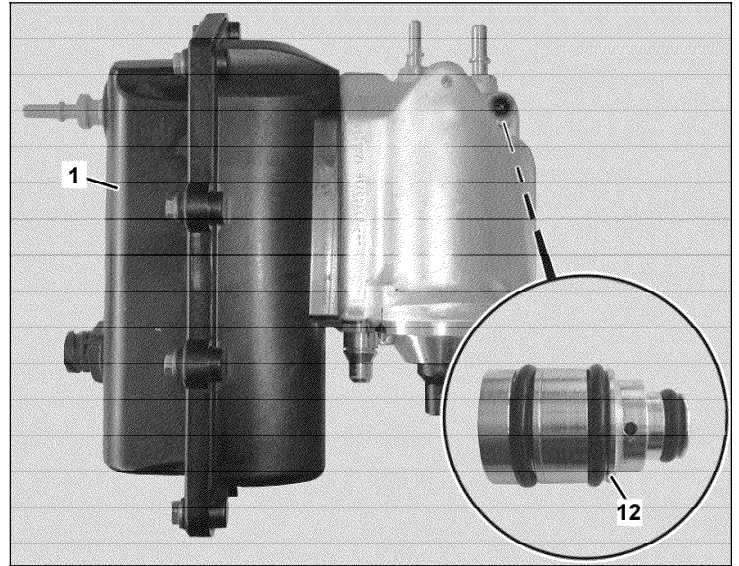
- 1 Pump module
- 2 External pneumatic pressure reducing valve



W14.40-1510-11

Shown: pump module A 000 140 05 78 with repair solution, internal pneumatic pressure reducing valve

- 1 Pump module
- 12 Internal pneumatic pressure reducing valve (type of construction: diaphragm valve)



W14.40-1495-11

Modification notes

3.2.10	Contents of document revised completely; new repair solution for internal pressure reducing valve added.		
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Since the market launch of the Euro 4/5 up to now (02/2010) five different pump module variants have been fitted which differ from each other in detail and can be distinguished by means of the part number applied to the housing.

i Mechanical wear can result in the pneumatic pressure reducing valves sticking. This leads to malfunctions in the exhaust aftertreatment system.

Possible repair solutions in the event of a defective pressure reducing valve

For some pump modules there are repair solutions, with which the exchange of the complete pump module can be avoided.

- **Pump modules with part numbers: A 000 140 01 78, A000 140 02 78 or A 000 140 03 78**
There is no repair solution for this pump module so that this has to be replaced completely in the case of damage.

Troubleshooting/diagnosis

In the case of a fault, one of the following fault codes is currently stored in the engine control (MR) control unit:

- MR X 67 70 "AdBlue pressure drop too low in power-down"
- MR X 67 21 "AdBlue pressure too low"

Depending on the software version of the engine control (MR) control unit the fault priority can be "X", "0" or "1".

The following causes can also lead to these fault codes:

- Incorrect refueling of AdBlue container with diesel fuel
- Defective air pressure sensor on metering device
- Kinked air lines or AdBlue lines
- Clogged filter screen

For this reason it is absolutely essential to adhere to the test steps specified in Star Diagnosis or in TIPS. If the instruction "Replace pump module" appears the corresponding repair method should be used depending on the part number of the pump module (1).

- **Pump modules with part number: A 000 140 04 78**
In the case of damage an external pneumatic pressure reducing valve (2) can be installed which takes over the function of the internal pressure reducing valve. This can also be replaced in the case of damage.

i Pump modules with this part number have been installed from approx 07/2006 up to 07/2009 at the plant or also on older vehicles in the course of repair.

- **Pump modules with part number: A 000 140 05 78**
This pump module fitted since approx 07/2009 has an internal pneumatic pressure reducing valve in a diaphragm valve type of construction instead of the internal pneumatic pressure reducing valve (piston valve type of construction). The internal pneumatic pressure reducing valve (12) can be replaced in the case of damage.

Invoicing

The installation of the external/internal pneumatic pressure reducing valve can be invoiced via damage code 14471 B2 (AdBlue AdBlue pump module - clogged).

Damage code 47308 (AdBlue shift valve) has been introduced for complaints about the external/internal pneumatic pressure reducing valve.

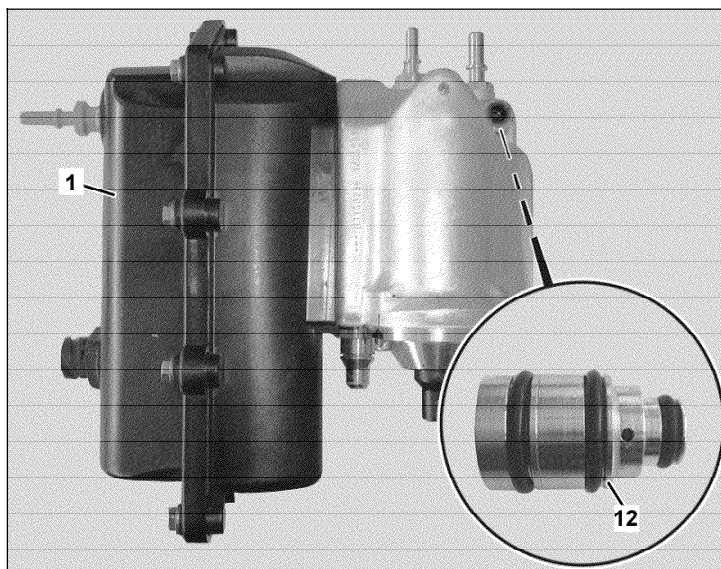
	Install external pneumatic pressure reducing valve (2)	i Only on pump modules with part number A 000 140 04 78.	SM14.40-W-0010A
	Replace internal pneumatic pressure reducing valve (12) of pump module	i Only on pump modules with part number A 000 140 05 78. Model 930, 932, 933, 934, 940, 942, 943, 944, 950, 952, 953, 954, 970, 972, 974, 975, 976 Type 949	Page 4 Page 7

Parts ordering notes





Part no.	Designation	Quantity
A 000 142 00 19	Internal pneumatic pressure reducing valve	1
A 000 142 03 19	External pneumatic pressure reducing valve	1
A 941 475 17 20	Profile base (as chafe protection for the external pneumatic pressure reducing valve)	1





- ENGINES** 457.9 in MODEL 940, 942, 943, 944 with CODE (MS4) BlueTec 4
Pump module with part number A 000 140 05 78
- ENGINES** 457.9 in MODEL 940, 942, 943, 944 with CODE (MS5) BlueTec 5
Pump module with part number A 000 140 05 78
- ENGINES** 541.9 in MODEL 930, 932, 933, 934 with CODE (MS4) BlueTec 4
Pump module with part number A 000 140 05 78
- ENGINES** 541.9 in MODEL 930, 932, 933, 934 with CODE (MS5) BlueTec 5
Pump module with part number A 000 140 05 78
- ENGINES** 542.9 in MODEL , 930, 932, 934 with CODE (MS4) BlueTec 4
Pump module with part number A 000 140 05 78
- ENGINES** 542.9 in MODEL , 930, 932, 934 with CODE (MS5) BlueTec 5
Pump module with part number A 000 140 05 78
- ENGINES** 900.9 in MODEL 970, 972, 975, 976 with CODE (MS4) BlueTec 4
pump module with part number A 000 140 05 78 (except road sweeper body)
- ENGINES** 900.9 in MODEL 970, 972, 975, 976 with CODE (MS5) BlueTec 5
pump module with part number A 000 140 05 78 (except road sweeper body)
- ENGINES** 902.9, 926.9 in MODEL 950, 952, 953, 954 with CODE (MS4) BlueTec 4
Pump module with part number A 000 140 05 78
- ENGINES** 902.9, 926.9 in MODEL 950, 952, 953, 954 CODE (MS5) BlueTec 5
Pump module with part number A 000 140 05 78
- ENGINES** 902.9 in MODEL 970, 972, 974, 975, 976 with CODE (MS4) BlueTec 4
pump module with part number A 000 140 05 78 (except road sweeper body)
- ENGINES** 902.9 in MODEL 970, 972, 974, 975, 976 with CODE (MS5) BlueTec 5
pump module with part number A 000 140 05 78 (except road sweeper body)

- 1 Pump module
- 12 Internal pneumatic pressure relief valve



W14.40-1495-11

 SI	Service Information: repair solution for pressure reducing valve in pump module of exhaust aftertreatment system		Page 1
	Remove/install		
 Danger!	Risk of burn injuries and scalding when working at AdBlue lines and the components attached to them. Risk of injury to skin and eyes when handling AdBlue. Risk of poisoning caused by swallowing AdBlue	Pour AdBlue into suitable containers only. Wait until the pressure is released before starting any work on the exhaust aftertreatment system.	AS14.40-Z-0001-01A
 i	Notes on use, material properties and handling of AdBlue®		AH14.40-N-0001-01A
1	Remove internal pneumatic pressure relief valve (12) for pump module (1)		Page 8

		Nm Nm Engine 457.9 Nm Engines 54.1.9, 542.9 Nm Engines 900.9, 902.9, 924.9, 926.9	BA00.18-N-1003-01A BA14.40-N-1054-02B BA14.40-N-1055-02A BA14.40-N-1054-02C BR00.45-Z-1019-06A WF58.50-W-1440-05A WF58.50-W-1440-06A WF58.50-W-1440-07A
 WF  WF  WF  BT	Sealing piece for AdBlue feed line Sealing piece for AdBlue return line Sealing piece for AdBlue feed fitting on pump module Pump module altered		Page 14
2	Install in the reverse order		

Nm Compressed air lines

Number	Designation	Model 930, 932, 933, 934, 944, 950, 952, 953, 954, 957, 958	Model 940, 942, 943, 944
BA00.18-N-1003-01A	Compressed air connection system SCHÄFER "SDF" in metallic material	M10×1 Nm	5 5

Nm Exhaust aftertreatment, Blue Tec

Number	Designation	Engine 541.9 with code MS4 or code MS5	Engine 542.9 with code MS4 or code MS5
BA14.40-N-1055-02A	Screw-in bushing for the internal pressure relief valve on the pump module	Nm 5	5

Nm Exhaust aftertreatment, Blue Tec

Number	Designation	Engine 457.9 with code MS4 or code MS5
BA14.40-N-1054-02B	Screw-in bushing for the internal pressure relief valve on the pump module	Nm 5

Nm Exhaust aftertreatment, Blue Tec

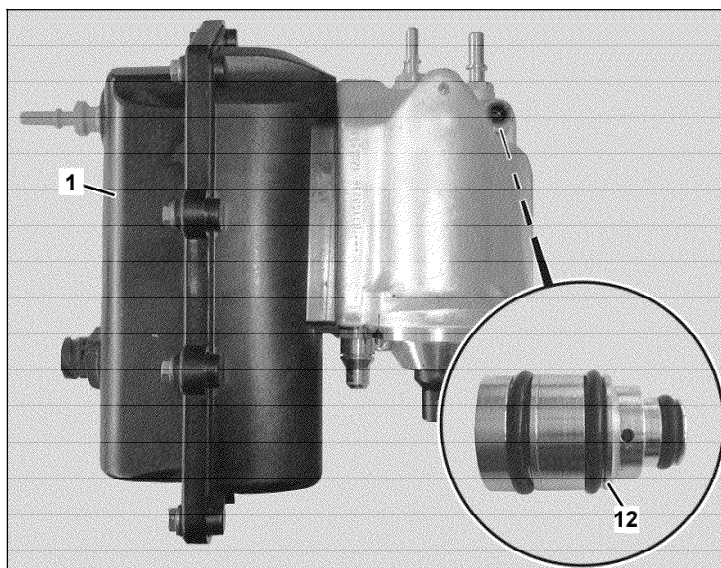
Number	Designation	Engine 900.9, 902.9, 924.9, 926.9 with code MS4 or code MS5
BA14.40-N-1054-02C	Screw-in bushing for the internal pressure relief valve on the pump module	Nm 5

Repair materials

Number	Designation	Order number
BR00.45-Z-1019-06A	ABS sensor grease	A 000 989 62 51 10

ENGINES 926.9 in MODEL , , 949, with CODE (MS5) BlueTec 5
Pump module with part number A 000 140 05 78

- 1 Pump module
- 12 Internal pneumatic pressure relief valve



W14.40-1495-11

SI	Service Information: repair solution for pressure reducing valve in pump module of exhaust aftertreatment system		Page 1
	Remove/install		
Danger!	Risk of burn injuries and scalding when working at AdBlue lines and the components attached to them. Risk of injury to skin and eyes when handling AdBlue. Risk of poisoning caused by swallowing AdBlue	Pour AdBlue into suitable containers only. Wait until the pressure is released before starting any work on the exhaust aftertreatment system.	AS14.40-Z-0001-01A
i	Notes on use, material properties and handling of AdBlue®		AH14.40-N-0001-01A
1	Remove internal pneumatic pressure relief valve (12) for pump module (1)	Nm Nm	Page 8 BA00.18-N-1003-01A BA14.40-N-1054-02C BR00.45-Z-1019-06A WF58.50-W-1440-05A WF58.50-W-1440-06A WF58.50-W-1440-07A
WF	Sealing piece for AdBlue feed line		
WF	Sealing piece for AdBlue return line		
WF	Sealing piece for AdBlue feed fitting on pump module		
BT	Pump module altered		Page 14
2	Install in the reverse order		

Compressed air lines






Number	Designation	Model 949
BA00.18-N-1003-01A	Compressed air connection system SCHÄFER "SDF" in metallic material	M10×1 Nm 5

Nm Exhaust aftertreatment, Blue Tec

Number	Designation	Engine
		900.9, 902.9, 924.9, 926.9 with code MS4 or code MS5
BA14.40-N-1054-02C	Screw-in bushing for the internal pressure relief valve on the pump module	Nm 5

Repair materials

Number	Designation	Order number
BR00.45-Z-1019-06A	ABS sensor grease	A 000 989 62 51 10

AR14.40-W-2048-01A	Remove/install pneumatic pressure relief valve from pump module		
 Danger!	Risk of burn injuries and scalding when working at AdBlue lines and the components attached to them. Risk of injury to skin and eyes when handling AdBlue. Risk of poisoning caused by swallowing AdBlue	Pour AdBlue into suitable containers only. Wait until the pressure is released before starting any work on the exhaust aftertreatment system.	AS14.40-Z-0001-01A
	Notes on use, material properties and handling of AdBlue®		AH14.40-N-0001-01A
 WF	Sealing piece for AdBlue feed line		WF58.50-W-1440-05A
 WF	Sealing piece for AdBlue return line		WF58.50-W-1440-06A
 WF	Sealing piece for AdBlue feed fitting on pump module		WF58.50-W-1440-07A

Nm Compressed air lines

Number	Designation	Model	Model
		930, 932, 933, 934, 944, 950, 952, 953, 954, 957, 958	940, 942, 943, 944
BA00.18-N-1003-01A	Compressed air connection system SCHÄFER "SDF" in metallic material	M10×1 Nm	5

Nm Exhaust aftertreatment, Blue Tec

Number	Designation	Engine	Engine
		541.9 with code MS4 or code MS5	542.9 with code MS4 or code MS5
BA14.40-N-1055-02A	Screw-in bushing for the internal pressure relief valve on the pump module	Nm 10	10

Nm Exhaust aftertreatment, Blue Tec

Number	Designation	Engine 457.9 with code MS4 or code MS5
BA14.40-N-1054-02B	Screw-in bushing for the internal pressure relief valve on the pump module	Nm 10

Nm Exhaust aftertreatment, Blue Tec

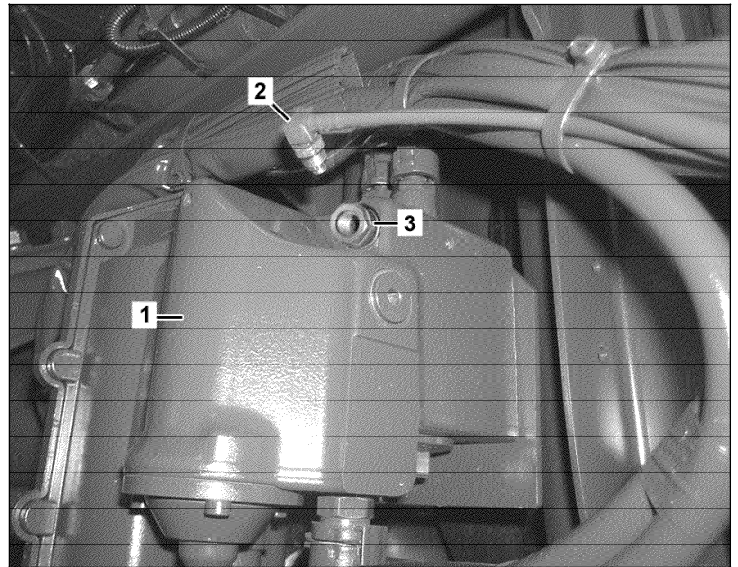
Number	Designation	Engine 900.9, 902.9, 924.9, 926.9 with code MS4 or code MS5
BA14.40-N-1054-02C	Screw-in bushing for the internal pressure relief valve on the pump module	Nm 10

Repair materials

Number	Designation	Order number
BR00.45-Z-1019-06A	ABS sensor grease	A 000 989 62 51 10

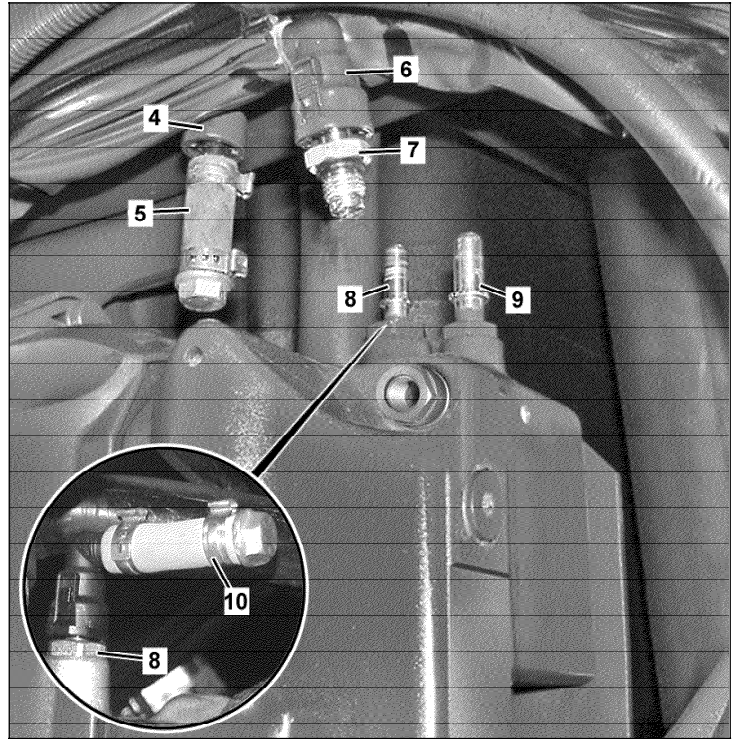
Removal:

- 1 Thoroughly clean the area of the screw-in bushing (3) for the internal pneumatic pressure relief valves on the pump module (1).
- 2 Disconnect air line (2) on the screw-in bushing (3).



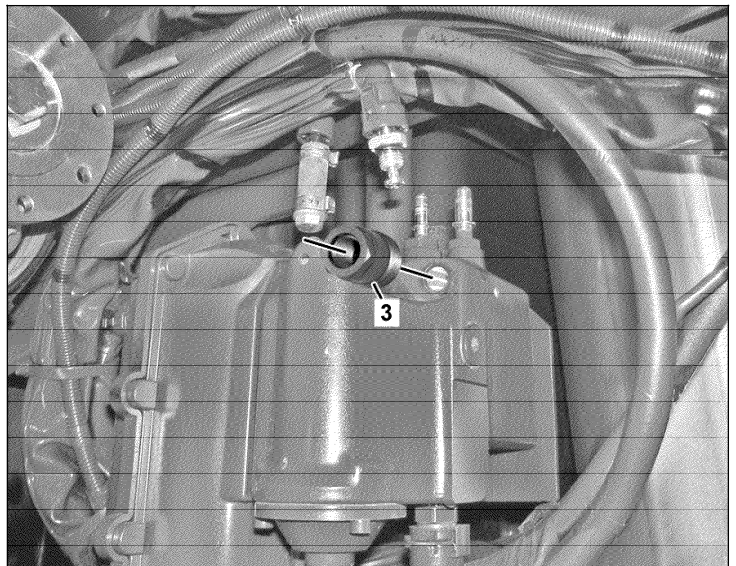
W14.40-1496-11

- 3 Detach AdBlue feed line (4) on the feed fitting (8) and close off using a shop-made sealing piece (5).
- 4 Detach AdBlue return line (6) on the return connection (9) and close off using a shop-made sealing piece (7).
- 5 Close off feed fitting (8) using a shop-made sealing piece (10).



W14.40-1497-12

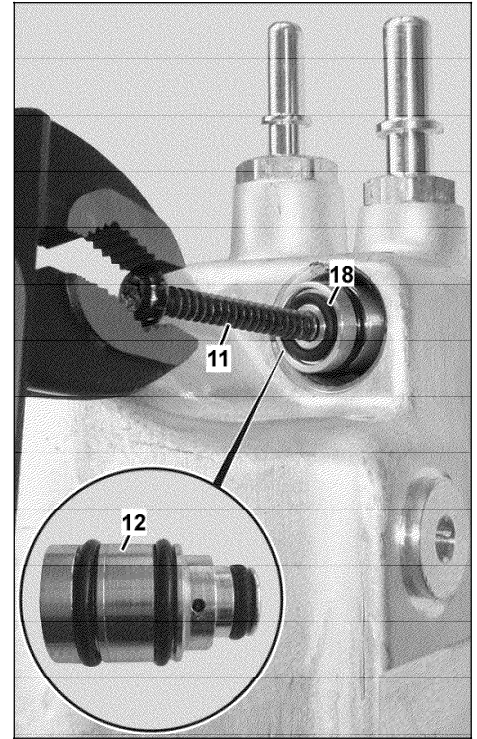
- 6 Loosen union nuts on the screw-in bushing (3) while counterholding on the screw-in bushing (3).
- 7 Remove screw-in bushing (3) with an appropriately long socket wrench.



W14.40-1498-11

8 Remove internal pneumatic pressure relief valve (12).

i To removal a bolt (11) with the dimension M5×50. Screw in bolt (11) to the noticeable end stop then pull out using suitable pliers. Ensure that the axial O-ring (18) is also removed at the same time and does not remain in the bore or does not remain stuck from previous removal of the screw-in bushing.



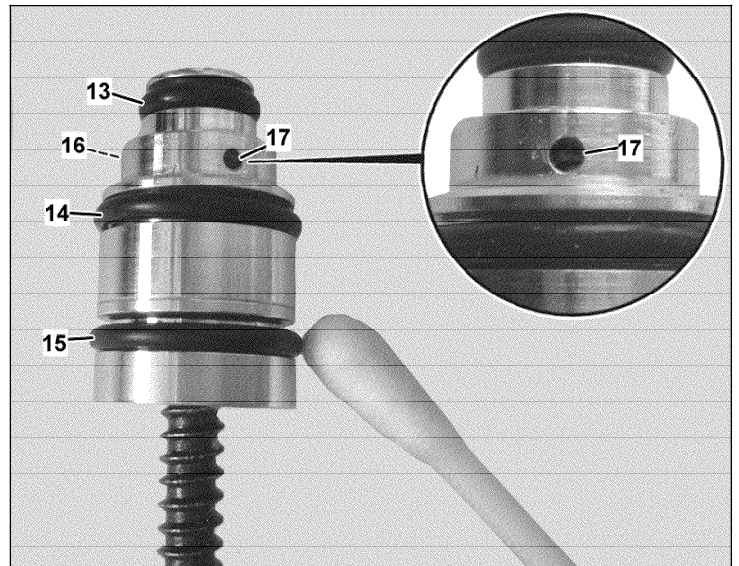
W14.40-1499-03

Installation

9 Thoroughly clean the bore and thread in the pump module using a lint-free rag.

10 The O-rings (13, 14, 15) should be wet very thinly with the lubricant.

! It is essential to ensure that the bores (16, 17) are not blocked up with lubricant since this could lead to a function failure of the internal pneumatic pressure relief valve.

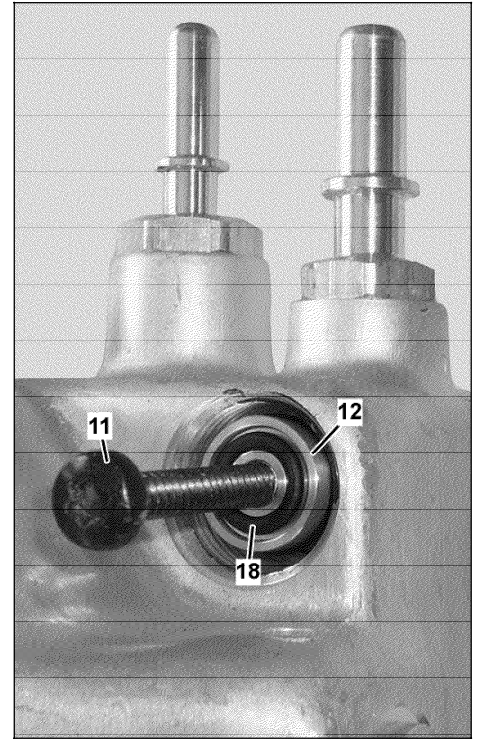


W14.40-1500-11

11 Put axial O-ring (18) in place and install internal pneumatic pressure relief valve (12).

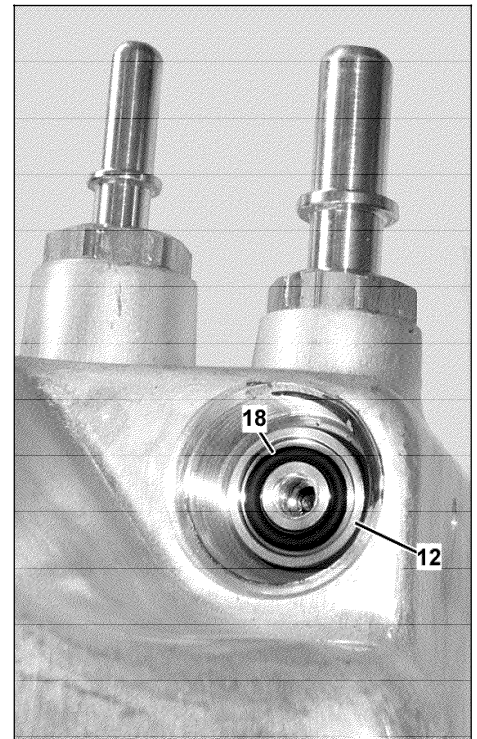
i To install a bolt (11) with the dimension M5×50. Screw in bolt (11) down to the noticeable end stop then lead internal pneumatic pressure relief valve (12) under slight pressure up to the end stop in the blind hole in the pump module. It is essential to ensure that no dirt finds its way into the pump module and that the O-rings are not damaged during introduction.

12 Unscrew bolt (11).



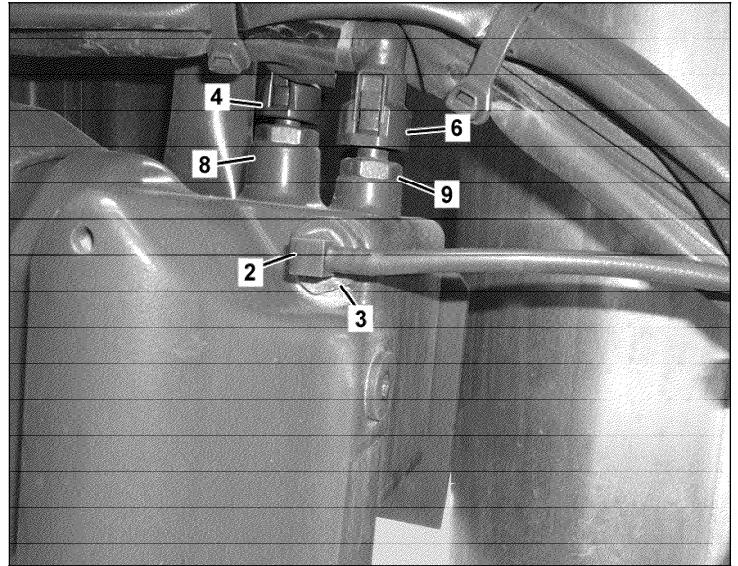
W14.40-1501-03

13 Check for correct seating of the axial O-ring (18) on the internal pneumatic pressure relief valve (12); align if necessary.



W14.40-1502-03

- 14 Install screw-in bushing (3) $\overline{\text{Nm}}$.
- 15 Attach AdBlue feed line (4) to the feed fitting (8).
- 16 Attach AdBlue return line (6) to the return connection (9).
- 17 Attach air line (2) to the screw-in bushing (3) $\overline{\text{Nm}}$.



W14.40-1503-11

BT14.40-W-0001-01A	Pump module altered		
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ENGINES 457.9, 541.9, 542.9, 902.9, 926.9 with CODE (MS4) BlueTec 4

ENGINES 457.9, 541.9, 542.9, 902.9, 926.9 with CODE (MS5) BlueTec 5

ENGINES 900.9, 902.9, 924.9 with CODE (MS4) BlueTec 4

ENGINES 900.9, 902.9, 924.9 with CODE (MS5) BlueTec 5

Modification notes

26.2.10	The contents of the document have been completely revised; a new repair solution for internal pressure relief valve has been added.		
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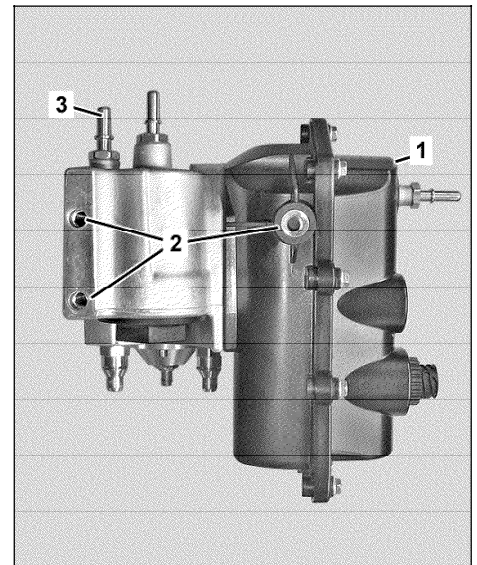
Since market launch of the Euro 4/5 five different pump module variants have been installed including the current condition (02/2010) which deviate from each other in the details and which can be differentiated between based on the part number attached to the housing.

The following is description of the main changes:

An altered diameter of the fastening thread (2) and the AdBlue return connection (3) on the pump module (1)

Since about the middle of August 2006 the following changes have been made to the pump module (1) in series production:

- Diameter of the bore with the fastening thread (2) for fastening the pump module (1) to the bracket altered from M12 to M10
- Outside diameter of the AdBlue return connection (3) altered from 7.89 mm to 9.49 mm.



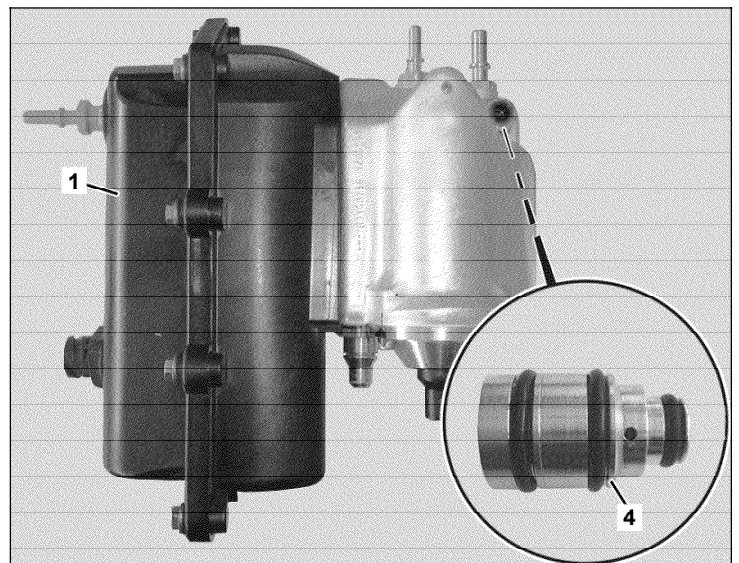
W14.40-1511-02

An altered pneumatic pressure relief valve on the pump module

Since about 07/2009 the following changes have been made in series production:

Instead of a pneumatic pressure relief valve of the piston valve type the pump module (1) is now fitted with a pneumatic pressure relief valve of the diaphragm valve type (4).

i Since about 07/2009 only the altered pump modules (1) will be delivered as a replacement part over the GLC.




W14.40-1512-11

Possible repair solutions

For some pump module types there is a repair solution available which avoids exchange of the complete pump module in the case of a defective pneumatic pressure relief valve.

- **Pump module with the part number: A 000 140 01 78, A000 140 02 78 or A 000 140 03 78**
There is no repair solution available for this pump module so this must be completely replaced in a case of damage occurring.
- **Pump module with the part number: A 000 140 04 78**
in a case of damage occurring an external pneumatic pressure relief valve can be installed which takes over the function of the internal pressure relief valve. This can also be replaced in a case of damage occurring.

 Pump modules with this part number were installed at the Würth works from about 07/2006 until about 07/2009 in series production. A number of older vehicles also have this module if it was installed as part of a repair operation.

- **Pump module with the part number: A 000 140 05 78**
This pump module which has been installed since about 07/2009 does not have the pneumatic pressure relief valve (piston valve type) fitted but rather a pneumatic pressure relief valve of the diaphragm valve type. This valve can be replaced in a case of damage occurring.