From: Non-responsive content removed

To: CC:

Date: 8/1/2008 10:10:08 AM Subject: RE: CP4 field failures

INFORMATION Redacted PURSUANT TO THE FREEDOM OF INFORMATION ACT (FOIA), 5 U.S.C. 552(B)(6)

Hello

, this time successfully. I have again forwarded this to Enjoy a relaxing 3 weeks' holiday Don't put too much strain on your pump! :-) Regards,

From: Non-responsive content removed

Sent: Thursday, July 31, 2008 4:24 PM Non-responsive content removed

Subject:

FW: CP4 field failures

Hello

Please forward the mail personally to

His mailbox is full

Best regards

From: Non-responsive content removed

Sent: Thursday, July 31, 2008 4:21 PM

Non-responsive content removed

Subject: Re: CP4 field failures

Hello Mr.

There are two fault symptoms in this context:

Production errors by Bosch that only fail in the field (metalization, pumps in the roller, roller shoe, etc.) Problems with CP4.2 in various markets due to fuels Non-responsive content removed

There is a big question mark over why CP4.2 is affected much more than CP4.1. We are now gathering faulty pumps, fuel and filters from the relevant markets. It is not clear how to categorize the USA Q-AL failures; there are arguments for both theories.

attended the damage discussions this morning - as I did too - and heard what was said. Following this morning's damage discussions, Mr immediately phone Dr. Non-responsive contents executive board because Bosch is not doing enough to deal with the issue of fuel in the field and the robustness of the pump.

We need to attend the Q Circle soon, but I am in no hurry because we still do not have enough information.

PS: I am taking 3 weeks vacation first.

Best regards

EA11003EN-00000[1] Non-responsive content removed AUDI AG Non-responsive conte nt removed From: Non-responsive content removed Sent: Monday, July 28, 2008 10:33 AM Non-responsive content removed Subject: Re: CP4 field failures Hello Mr. Thank you for the information. You can still contact me at the still waiting for my cell phone, which will have a new number; I will let you know when I get it). I don't believe it will be enough to send information "after the event" Best wishes. From: Non-responsive content removed Sent: Monday, July 28, 2008 10:04 AM To: Non-responsive content removed Subject: Re: CP4 field failures Dear Dr. I don't think that it makes much sense to attend by phone as I don't believe that can help very much. Bosch will have to find innovative solutions (constructive? additive????) Before this we at Audi need to push ahead with the fuel analyses, however is a list having great difficulty supplying I suggest informing you after the meeting. I would call you if it is necessary to consult with ; which number should I use ? Best regards Non-responsive content removed **AUDI AG** Non-responsive conten removed From: Non-responsive content removed

From: Non-responsive content removed
Sent: Monday, July 28, 2008 9:48 AM
To: Non-responsive content removed

Subject: Re: CP4 field failures

Hello Mr.

I agree that this is a very serious situation. What about the specialist meeting on Wednesday? Would it be possible/useful to attend by telephone?
Best wishes from
Non responsive content removed
From: Non-responsive content removed Sent: Friday, July 25, 2008 4:53 PM
Non-responsive content removed
Subject: CP4 field failures Importance: High
Hi all,
Today I registered the 50th field failure ————————————————————————————————————
Non-responsive content removed
Please monitor the analyses with due attention. I assume that the Swedish pump is from Wk 29 According to my documents, you received the first pump on 16 April, so that it and the fuel in it must have been analyzed some time ago. Unfortunately the third pump went via when the fuel in it must have been because the plant was entered a being responsible for the parts this has now been corrected.
I suggest we telephone daily about the list and analyses, starting Monday. I will be on vacation for three weeks the week after next. We will organize the flow of parts and fuel samples in my absence before then.
Best regards

Bosch CP4.1 Drivetrain Damage





Page 1

2/5/2010

Author/Dept.:

Bosch CP4.1 Drivetrain Damage

Consequences of drivetrain damage

- Build-up of particles in the high-pressure fuel pump drivetrain
- Distribution of the particles throughout the fuel system
- Malfunctions on high-pressure fuel pump, DRV, RDS, injectors, DHV

· Repair work:

- Replacement of the entire fuel injection system, consisting of:

Fuel filter

High-pressure pump

High-pressure lines

Rail, incl. rail pressure sensor and pressure regulating valve

Injectors

Leakage line

Fuel lines

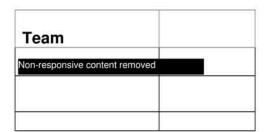
Cleaning of the fuel tank and flushing the lines

W

Page 2 2/5/2010 Author/Dept.:

EAD Quality Offensive 2,01 TDI BIN5

	Field failures BIN5		
	Topic	Cause	Responsibility
1	HPP CP4.1 Bosch	Failures/ drivetrain damage	



Problem: HPP failures due to stiff rollers

(Tribo system: Roller shoe, roller, camshaft)

Cause: - Q problems RB (tolerances, friction pairing, etc)

- Fuel properties (HFRR, water content, etc)

Measures: - See list of measures RB,

- Task Force

- Delivery of first sample pumps CP4.1 with robustness package 1 for validation in NMS/ NCS in WK 08/10

- Requirement: Incorrect fueling guard in tank connector for NMS, NCS and all subsequent CR installations

Date: Ongoing

Page 1

Non-responsive content removed

Author/Dept.: Non-responsive content remove



From: Non-responsive content removed

CC:

Date: 9/24/2010 7:37:58 AM

Subject: Re: High-pressure fuel pumps from

Attachments: Pumpentausch in msg

Dear Mr

When can we expect these pumps?

We are nearly one year on.

With best wishes

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Domicile/Sitz: Ingolstadt

Court of Registry/Registergericht: District Court of Ingolstadt

Commercial Register No./HRB Nr.: 1

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Vorstand/Board of Management: Rupert Stadler (Vorsitzender/Chairman), Ulf Berkenhagen, Michael

Dick, Frank Dreves, Peter Schwarzenbauer, Axel Strotbek, Werner Widuckel

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> Non-responsive content removed
> Sent: Tuesday, December 15, 2009 4:46 PM
> Non-responsive content removed

>Subject: High-pressure fuel pumps from

EA11003EN-00009[1] > Dear Colleagues, >Please remove the CP4 high pressure fuel pump from two V6TDI engines after they arrive in send them to me for analysis. >Reason: >The pumps will be run in in a gold test with B5 (5% biodiesel) and will then be blown out. Naturally not all the fuel will be removed from the pump. It is well known that biodiesel can clog parts of the fuel injection system if left to stand for a long period. If the rollers in the roller shoes can stick, then the pump may be damaged in advance, causing total damage. >We need to check the two pumps to see if these fears are realized. > > > >With best regards esponsive content remo Non-responsive content removed >AUDI AG Non-responsive content removed >www.audi.com > >Sitz/Domicile: Ingolstadt >Court of Registry/Registergericht: District Court of Ingolstadt >Commercial Register No./HRB Nr.: 1 >Chairman of the Supervisory Board/Vorsitzender des Aufsichtsrats: Martin Winterkorn >Vorstand/Board of Management: Rupert Stadler (Chairman/Vorsitzender), Ulf Berkenhagen, Michael Dick, Frank Dreves, Peter Schwarzenbauer, Axel Strotbek, Werner Widuckel >Wichtiger Hinweis: Die vorgenannten Angaben werden jeder E-Mail automatisch hinzugef>ügt und lassen keine Rückschlüsse auf den Rechtscharakter der E-Mail zu. >Important Notice: The above information is automatically added to this e-mail. This addition does not

constitute a representation that the content of this e-mail is legally relevant and/or is intended to be

legally binding upon AUDI AG.

EA11003EN-00010[0]

Non-responsive content removed From: To:

CC:

1/25/2010 1:43:24 PM Date: Subject: Pump replacement in

Dear

By now you will have received two CP4.2 high pressure fuel pumps from as replacements for two pumps to be removed from newly delivered engines from

Please make sure that the engine and pumps are not turned while the pumps are being removed.

Reason: Fuel with a biodiesel proportion (5%) will be used in the cold test in With this fuel fuel it can happen that parts of the fuel injection system "stick" when idle for long periods. This is precisely what we want to check. This 'sticking' might be undone if the engine and pumps are turned.

With best wishes

Non-responsive content rem

Non-responsive content removed

AUDI AG

74146 Neckarsulm

Non-responsive content removed

www.audi.com

Sitz/Domicile: Ingolstadt

Registergericht/Court of Registry: Amtsgericht Ingolstadt

HRB Nr./Commercial Register No.: 1

Vorsitzender des Aufsichtsrats/Chairman oftheSupervisory Board: Martin Winterkorn Vorstand/Board of Management: Rupert Stadler (Vorsitzender/Chairman), Ulf Berkenhagen, Michael Dick, Frank Dreves,

Peter Schwarzenbauer, Axel Strotbek, Werner Widuckel

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EA11003EN-00011101
From: Non-responsive content removed
CC:

Date: 11/19/2010 10:56:00 AM

Subject: FW: V6 TDI CP4.2 Repair Guidelines
Attachments: Übersicht HDP CP4.2.pdf

HDP Aus Einbau.pdf
Kraftstoffbefüllung n Einbau.pdf
Sauberkeitsregeln Kraftstoffsystem.pdf

Dear

According to Mr. was notable during the site visit to that a large number of the vehicles with drivetrain damage also had valve extensions. Naturally, when it comes to the repeat cases of drivetrain damage, Bosch assumes that these are the result of an error in the initial repair, i.e. the valves were first extended and the CP4 drivetrain was damaged as a result. Is that possible?

Best regards

From:

Sent: Friday, November 19, 2010 7:02 AM

Non-responsive content removed

Subject: V6 TDI CP4.2 Repair Guidelines

Dear

As promised, a couple of extracts from the current repair guidelines.

These documents explain the removal and installation and general handling of the fuel system for the dealers in the event of a repair.

The repair guidelines are broken down according to vehicle type at Audi and in this case apply to the A4.

With best wishes

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Vorstand/Board of Management: Rupert Stadler (Chairman/Vorsitzender), Ulf Berkenhagen, Michael Dick, Frank Dreves, Peter Schwarzenbauer, Thomas Sigi, Axel Strotbek

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Removing and installing the high-pressure fuel pump

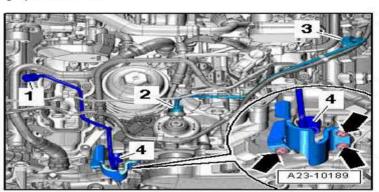


Caution:

- + Please observe the cleanliness rules when working on the fuel injection system → Chapter.
- + These cleanliness rules and instructions must be observed before and during all work.
- + Before the engine is started for the first time, the highpressure fuel pump must be filled with fuel The highpressure fuel pump must not be allowed to run dry For instructions on the first fueling see → Chapter.

Removal

- Remove the top part of the intake pipe → Chapter.
- Remove the toothed belt for the high-pressure pump → Chapter.
- Undo the screws -indicated by the arrows- and remove the guard for the high pressure line.
- Remove union nuts -1 ... 4- and reveal the high-pressure lines.



- Disconnect the electrical plug 3
- Remove the fuel flow hose -1- and return hose -2-
- Undo the screws -indicated by the arrows- and remove the high pressure fuel pump.

Installation

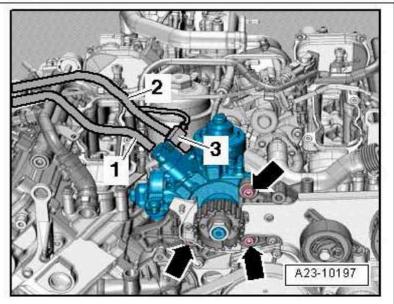
Torque→ Chapter.

Installation takes place in the revers order, please note the following:



Vote

- Replace the sealing rings and seals.
- The fuel return line may not be twisted, damaged or clogged
- Install the toothed belt for the highpressure pump → Chapter.



- Install the high-pressure lines → Chapter.
- Install the upper part of the intake pipe → Chapter.



Caution:

 Before the engine is started for the first time, the high-pressure fuel pump must be filled with fuel The high-pressure fuel pump must not be allowed to run dry.

For instructions on the first fueling see - Chapter.

 The high-pressure fuel pump can be destroyed if it is allowed to run dry.

An adjustment is required after the high-pressure pump and/or the regulating valve for fuel pressure -N726- is replaced. (The process is also described under guided functions)

Select the appropriate vehicle in the guided fault search.

- Press 'Skip'
- Press 'Function/component selection'
- Select 'Drive'
- '01 Self-diagnosis systems'
- '01 Engine electronics J623'
- Select '01 Engine electronics functions'
- '01 Adjust learned values for pressure regulating valve'

Implementation of first fueling after installation of the high-pressure fuel pump



Caution:

After the installation of the high-pressure fuel pump and before the engine is started for the first time, the highpressure fuel pump must be filled with fuel (the high pressure pump must never be allowed to run dry).



- When installing the high-pressure fuel pump, make sure that no dirt gets into the fuel system.
- Only remove the caps immediately before installing the fuel lines.
- The vehicle must have fuel in the tank.

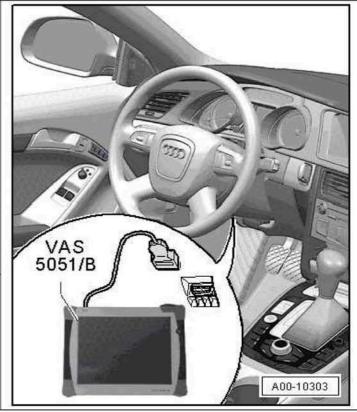
To fill the high-pressure fuel pump with fuel, proceed as follows:

- Connect the vehicle diagnosis system, measurement and information system -VAS 5051B
- Switch on the ignition.
- Select 'Engine electronics' in the internal diagnostics.
- Then select 'Basic Setting'.
- Select 'Test the fuel pump for forward conveying' in the menu list.
- Press the 'Start' button.
- The fuel pumps start.
- The fuel pumps must run for approx. 1 minute in order to ensure that the high-pressure fuel pump is filled with sufficient fuel.



Note

To repeat the basic setting, switch the ignition off and on again. The basic setting must then be started again.



- Start the engine after you have filled the fuel system.
- Allow the engine to run for a few minutes at a medium speed and then switch it off again.
- Check the fuel system for leaks.
- Delete the event memory entry with the error reader
- Then carry out a test drive of more than 20 km with at least one full acceleration, after which the highpressure area should be checked once again for leaks



If there is still air in the fuel system, the engine may enter emergency mode during the test drive. Switch off the engine and delete the event memory. Then continue with the test drive.

- Check the event memory.

Cleanliness rules and instructions for working on the fuel system

The first fueling procedure is only required for engines with the following codes CAMA, CAMB, CCWA, CCWB, CGKA CGKB and CCLA.

In order to prevent the high-pressure fuel pump from running dry and to ensure the engine starts quickly after parts are replaced, the following points must be considered:

- If parts/components of the fuel system are removed/replaced between the tank and high-pressure fuel pump, the basic setting "test fuel pump for flow" must be chosen to vent the fuel system.
- If a fuel pump, fuel line (between the tank and fuel high-pressure pump) or fuel filter is removed or replaced, then the fuel system must be vented before the engine is started for the first time.
- If a high-pressure fuel pump is removed or replaced, then the fuel system must be vented before the engine is started for the first time.
- Procedure for first fueling → Chapter.

General instructions:

- The work area and the tool must be cleaned before working on the fuel injection system
- Thoroughly clean all connections and their surroundings before loosening them.
- When removing components, immediately cover all open connectors with suitably clean caps.
- The protective caps for all components should only be removed directly before installation. Place removed components in new, sealable plastic bags (if available, use the original packaging).
- The injectors and installation location should be visually checked prior to installation for damage and fluff.
 Make sure the injector shaft is clean.
 If necessary, clean the injector shaft with a clean cleaning cloth (do not use any sharp-edged tools).
- If the high-pressure lines are not to be replaced, you must label the high-pressure lines when you remove them.
 The high-pressure lines must be reinstalled in the same location (cylinder).
- The following components and seals or O rings are to be replaced every time the injectors are removed and installed.
 "Copper washer", "injector shaft O ring", "Injector return O ring"
- The following components and seals or O rings must be replaced when replacing an injector: "clamping bracket",

- "copper washer", "injector shaft O ring", "injector return O ring"
- New copper seals must always be used for the injectors All new O rings should be checked for damage prior to installation O rings should be moistened before installation (installation oil or clean engine oil) Use the installation mandrel to install the "O ring for the injector return"
- When removing the old copper sealing ring, make sure not to damage the injector.
- Arrange the high pressure lines so that they are not taut.
 First make all connections hand-tight and then tighten them to the required torque.
- High-pressure injectors lines may never be twisted.
- The tool may only be used to tighten and loosen lines on the entire high-pressure system. All other installation or removal procedures must be carried out by hand without tools.
- Push the return lines onto the injectors from above until they audibly engage on each injector (do not push down the locking tabs).

Then push down the locking tabs.

Pull the return lines upwards by hand to make sure they fit tightly (the fuel pressure in the return line should be between 8 and 10 bar as far as the pressure retaining valve).

- All cable ties loosened or removed during removal are to be reattached at the same point during installation.
- With the fuel system open: avoid working with compressed air.
 Avoid moving the vehicle if possible.
- Also make sure that no diesel fuel reaches the coolant hoses.
 If necessary, the hoses should be cleaned again immediately Worn hoses should be replaced.

High-pressure fuel pump, overview of installations



Caution!

In order to prevent the high-pressure fuel pump from running dry and to ensure the engine starts quickly after parts are replaced, the following points must be considered:

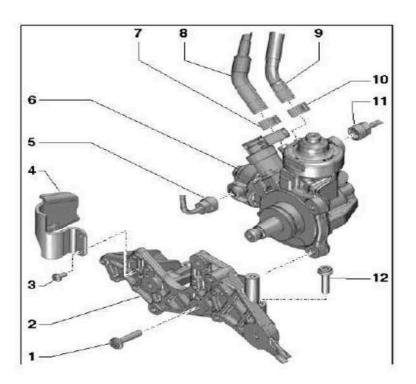
If parts/components of the fuel system are removed/replaced between the tank and high-pressure fuel pump, the basic setting "test fuel pump for flow" must be chosen to vent the fuel system.

If a fuel pump, fuel line (between the tank and fuel high-pressure pump) or fuel filter is removed or replaced, then the fuel system must be vented before the engine is started for the first time.

If a fuel high-pressure pump is removed or replaced, then the fuel system must be vented before the engine is started for the first time.

Procedure for first fueling → Chapter.

- 1 Screw
 - □ M6: 9 Nm
 - □ M8: 23 Nm
- 2 Console for highpressure fuel pump
- 3 Screw
 - □ 9Nm
- 4 Protective plate
- 5 Union nut for high-pressure line



High-pressure fuel pump, overview of installations

□ Torque → Chapter

6 - High-pressure fuel pump



Caution!

- Please observe the cleanliness rules when working on the fuel injection system

 Chapter.
- ◆ Before the engine is started for the first time, the high-pressure fuel pump must be filled with fuel. The high-pressure fuel pump must not be allowed to run dry First fueling → Chapter.
- □ Removal and installation → Chapter
- After the high-pressure fuel pump or regulating valve for fuel pressure -N276- has been replaced, the learned values must be readjusted, see "guided functions" in the vehicle diagnostic tester

7- Hose clamp

□ Only use hose clamps that correspond to the series → Parts catalog

8 - Flow fuel hose

9 - Return fuel hose

The fuel return line may not be twisted, damaged or clogged

10 - Hose clamp

□ Only use hose clamps that correspond to the series → Parts catalog

11 - Union nut for high-pressure line

□ Torque → Chapter

12 - Screw

□ 23 Nm

From: Non-responsive content removed

CC:

Date: 3/18/2011 10:54:08 AM

Subject: FW: ehp_0510 Schadensverlauf Bremsplatte.ppt

Attachments:

For your information:

Bosch Board Game for Review Meeting.

Don't forget to bring dice and counters.

Best regards

Non-responsive content r emoved

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From: Non-responsive content removed

Sent: Thursday, March 17, 2011 7:15 AM

Non-responsive content removed

Subject: ehp_0510 Schadensverlauf Bremsplatte.ppt

Hello Mr.

As discussed yesterday in the task force.

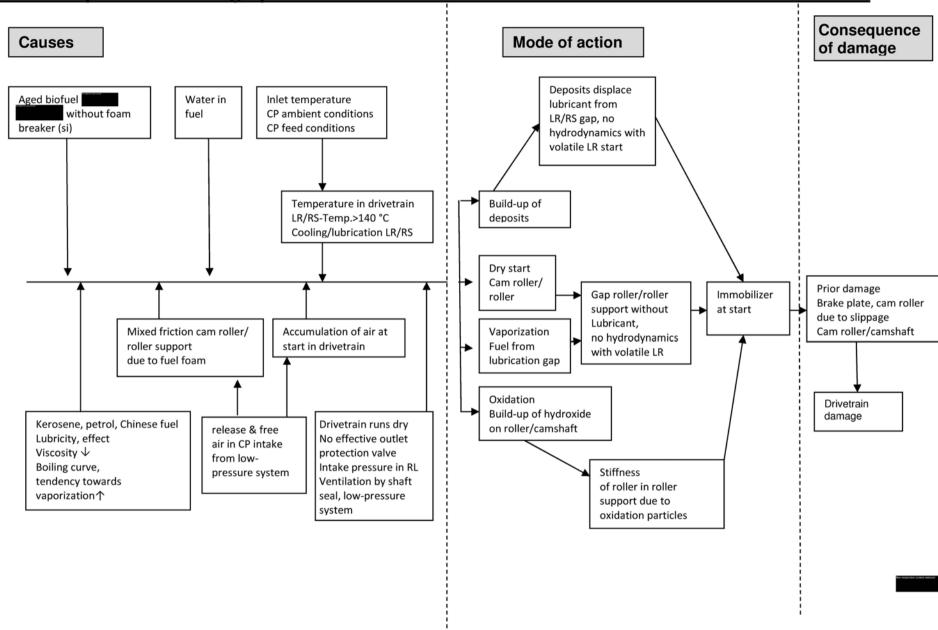
Dear Mr please file this in the task force folder

Hello Ms

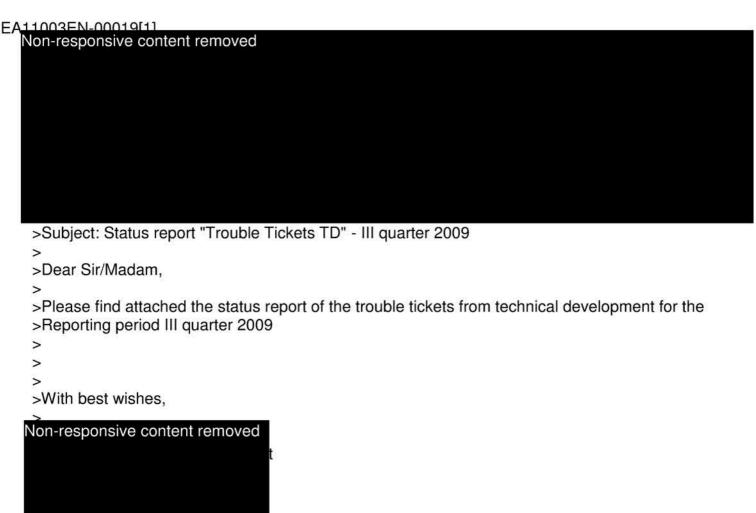
Please produce Bosch slides, content OK, for 23 March, 4 copies please, A2, thanks.

Best wishes

Draft for possible damage pattern for drivetrain wear on CP4.2 and the influential factors



EA11003EN-00019[0]	
From: To: CC:	Non-responsive content removed
Date: Subject: Attachments:	10/7/2009, 3:23:00 PM Re: Status report "Trouble Tickets TD" - III quarter 2009 20091001 Statusbericht Blaue Meldungen TE 011.pdf Bosch-Audi Top-Gespräch 2009 neu2.ppt
Hello	
My bosses will show	the following slides (from the Bosch-Audi steering committee).
>With best wishes	
> >Hello Non-responsive content > For information and > >Thank you >	report "Trouble Tickets TD" - III quarter 2009 removed d preparation. (Bosch high-pressure fuel pump)
Non-responsive conte	nt removed





>http://www.audi.com

>

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From: Non-responsive content removed To: CC: Date: 18.11.2009 10:40:00start

Subject: Re: Bosch Conference 2009

Attachments: AW Q-Konferenz Folien.msg

Hello

a) I visited Porsche specially on 17.09.09 (a significant number of Porsche staff from (Non-responsive content removed attended) together with some colleagues from and I offered an intensive and detailed report on CP4 drivetrain damage. At the time Porsche had about 8 failures in Cavenne

b) the VW Touareg information for was also shown in the Q conference slides (appendix 2, backup page 13).

We at Audi are responsible for the whole of the V6-TDI, as well as having charge of drivetrain damage in the context of R4-CR (VW is in charge of cleanliness, etc.)

This means we also all deal with VW.

We do not have a permanent handle on failure rates at Porsche as we do not have CS data and we supply the entire engine to Porsche without warranty, hence the reduced price:-).

However my contact address is also responsible for Porsche and can contact me as necessary.

I suggested that the first step should be to contact (= supplier).

Best regards

Non-responsive content remove

AUDI AG

Non-responsive content remov ed

Non-responsive content removed

Sent: Wednesday, November 18, 2009 9:45 AM

Non-responsive content removed

Subject: Re: Bosch Conference 2009

Non-responsive content removed

Sent: Wednesday, November 18, 2009 9:05 AM

Non-responsive content removed

Subject: Re: Bosch Conference 2009

Non-responsive content removed

doesn't seem to have any information - who looks after Touareg and

Porsche?

Does our presentation also include their failures?

Best regards

Non-responsive content removed

AUDI AG

85045 Ingolstadt

Non-responsive content removed

By: Non-responsive content removed

Sent: Wednesday, November 18, 2009 9:00 AM 09:00

To: Non-responsive content removed

Subject: Re: Bosch Conference 2009

Do you need any more information??

With best wishes

Non-responsive content removed

By: Non-responsive content removed

Sent: Wednesday, November 18, 2009 8:46 AM

Non-responsive content removed

Subject: Re: Bosch Conference 2009

Hello Q colleagues,

To avoid confusion:

The topic has been on the agenda for weeks and has been sufficiently agreed for presentation between both companies.

EA11003EN-00022[2] Best regards

Dest regards
Non-responsive content removed
Non-responsive content removed
Sent: Wednesday, November 18, 2009 8:21 AM Non-responsive content removed
Subject: Re: Bosch Conference 2009
Cabjest. No. Beson Comercines 2000
Dear Dr.
the topic/ problem is familiar.
We briefly discussed this matter on the edges of the SKQ with Mr. Non-responsive content removed
As far as I am concerned, Audi needs to prepare this together with you / Non-responsive content removed at least. Mr. would also be aware of the issue. (cases of damage)
The engine in question is from Audi and the pump is from Bosch.
As far as I am concerned, Audi needs to prepare this problem together with
Best regards,
Non-responsive content removed
Non-responsive content removed
Sent: Tue Nov 17 6:40:20 PM 2009
Subject: Re: Bosch Conference 2009
Dear Sirs, In this context, Non-responsive content removed would also like to discuss the TOP high-pressure fuel pump
V6 TDI (3,0I). Please prepare thus accordingly, Rwith best regards
Non-responsive content removed

By: Non-responsive content removed
Sent: Tuesday, November 17, 2009 6:28 PM



Agenda:

<>

< Message: NOTE CHANGE Bosch conference on 11/19/2009

With best wishes

Non-responsive content rem oved

VOLKSWAGEN AG

Non-responsive content removed

EA11003EN-00023[0]

From: Non-responsive content removed To: CC:

Date: 11/18/2009 10:02:00 AM Subject: Re: Q Conference Slides

TOP05.1 Robustheitssteigerung für kraftstoffkritische Märkte v13.pdf Attachments:

TOP05.2 CP4 Q Status v13.pdf

Hi all,

I would like to say a few final words about this set of slides at today's task force.

Best regards

Non-responsive content removed

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Domicile/Sitz: Ingolstadt

Court of Registry/Registergericht: District Court of Ingolstadt

Commercial Register No./HRB Nr.: 1 Chairman of the Supervisory Board/Vorsitzender des Aufsichtsrats: Martin Winterkorn Vorstand/Board of Management: Rupert Stadler (Chairman/Vorsitzender), Ulf Berkenhagen, Michael Dick, Frank Dreves, Peter Schwarzenbauer, Axel Strotbek, Werner Widuckel

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Subject: Q Conference Slides

Hello.

attached please find the updated slides for the Q Conference

Best regards / mit freundlichen Grüßen



Domicile: Stuttgart, Court of Registry: Amtsgericht Stuttgart, HRB 14000;

Chairman of the Supervisory Board: Hermann Scholl; Management: Franz Fehrenbach, Siegfried Dais; Bernd Bohr, Rudolf Colm, Volkmar Denner, Gerhard Kümmel, Wolfgang Malchow, Peter Marks, Peter Tyroller;

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EA11003EN-00026[0]

From: Non-responsive content removed CC: **Date:** 9/23/2008 12:20:56 PM Subject: FW: Measurements on W19 BIN5/ EU5 Attachments: AW Drehmomentmessungen an W19 BIN5, EU6 sowie W19 EU5.msg

Dear Mr

We had planned and agreed to carry out torque measurements with min. & max. tension roller tension on W19 EU5 & BIN5 at your premises this week.

no measurements were carried out in the past involving min./max. tension roller tension, but rather just According to Mr a release measurement (the tension roller tolerance was not taken into account).

It was planned to run a continuous test with the measurement results (e.g. in the resonance range). It was open to question whether it would make more sense to carry out this short continuous test at RB or Audi under realistic conditions.

When can we carry out measurements (initial value for continuous testing) with you? (Pumps EU5 and BIN5 ready for measurement?)

Thank you.

Best regards / mit freundlichen Grüßen

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Robert Bosch GmbH

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Domicile: Stuttgart, Court of Registry: Local Court of Stuttgart HRB 14000 Chairman of the Supervisory Board: Hermann Scholl; Management: Franz Fehrenbach, Siegfried Dais; Bernd Bohr, Rudolf Colm, Gerhard Kümmel, Wolfgang Malchow, Peter Marks; Volkmar Denner, Uwe Raschke, Peter Tyroller

Non-responsive content removed From:

Thursday, September 18, 2008 7:48 AM

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Re: Measurements on W19 BIN5/ EU5 **Subject:**

Hello Mr.

During the last measurement on BIN5 we also agreed with that we would also measure W24 tension rollers with upper and lower tolerances in relation to belt tension. This is also indicated in the results slides. At the time stated that there was no problem providing such tension rollers.

EA11003EN-00026[1]

In the interim there have been field failures with the CP4.2 at W19 We have received an indication that there may be a connection between the belt vibrations at BIN5 with W19 tension roller and the pump failures. For this reason, it was agreed in discussions between Audio and Bosch (which neither of us attended) to carry out further measurements on the W19 engines.

Attached please find an e-mail from to you in which the measurements are mentioned...

I think we should talk by phone today; I can see that thing is going to happen about this in week 39.

Best regards / mit freundlichen Grüßen

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Robert Bosch GmbH

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Domicile: Stuttgart, Court of Registry: Local Court of Stuttgart HRB 14000
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Volkmar Denner, Uwe Raschke, Peter Tyroller

From: Non-responsive content removed

Sent: Wednesday, September 17, 2008 10:41 PM

Non-responsive content removed

Subject: Re: Measurements on W19 BIN5/ EU5

Dear Mr

With whom was this meeting arranged? Unfortunately we cannot carry out measurements that quickly.

We do not have any measurement engines available at present.

What I fail to understand is the background to these measurements. During our last measurements the limiting value sample tensions were

already measured. This applies both to EU5 engines and BIN5/EU6 engines. We used the two different tension rollers, W24 and W19

What is the point of this measurement? Are you expecting new information or has something changed in relation to the pump in the interim?

Best regards / mit freundlichen Grüßen

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Audi AG

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EA11003EN-00026[2] Non-responsive content removed

Internet: <u>www.audi.com</u>

From: Non-responsive content removed

Sent: Wednesday, September 17, 2008 10:03 AM

Non-responsive content removed

Cc:

Subject: Measurements on W19 BIN5/ EU5

Dear Mr.

It was agreed during discussions between Audi and Bosch that further torque and bearing measurements would be carried out on engines W19 BIN5 and EU5. I was given Wk 39 (next week) as a date.

I was unable to reach you by phone. Hence the reason for my e-mail

The purpose of the measurements is to verify the tension roller tolerances. In other words, we wanted to see the bearing load on the pump with tension rollers in min and max. tolerance.

We have the measurement pumps ready for both engines.

Please let me know how things stand for you regarding a possible measurement date.

Thank you.

Best regards / mit freundlichen Grüßen

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Bernd Bohr, Rudolf Colm, Gerhard Kümmel, Wolfgang Malchow, Peter Marks;

Volkmar Denner, Uwe Raschke, Peter Tyroller

EA11003EN-00032[0]

From: Non-responsive content removed

To:

CC:

Date: 4/21/2008 6:14:58 PM

Subject: Investigation procedure for CP4

Befundungsablauf CP4 Version 5.pdf Attachments:

Dear Mr.



Attached please find the investigation procedure for our CP4 pumps for your personal use. Please do not share this file with third parties.

<<Befundungsablauf_CP4_Version_5.pdf>>

Best regards / mit freundlichen Grüßen

Robert Bosch GmbH

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GERMANY www.bosch.com

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Domicile: Stuttgart, Court of Registry: Local Court of Stuttgart Commercial Registry no. 14000 Chairman of the Supervisory Board: Hermann Scholl; Management: Franz Fehrenbach, Siegfried Dais; Bernd Bohr, Wolfgang Chur, Rudolf Colm, Gerhard Kümmel, Wolfgang Malchow, Peter Marks; Volkmar Denner, Peter Tyroller

From: Non-responsive content removed

CC:

Date: 11/14/2008 10:41:00 AM

Subject: FW: UM images for swift diagnosis, fuel not OK for future field pumps without returns

Attachments: Non-responsive content removed Liste Triebwerkschäden CP4 13.11.08.xls

Dear colleagues

Please continue to report all pump failures due to CP4 drivetrain damage to me.

If the pumps are no longer returned from abroad, please supply the following data do that we can identify the drivetrain damage as such from a technical (rather than a commercial) perspective.

DISS correspondence

Photo of pump type plate

Photo of UM bore in aluminum housing with splintering

Photo of UM foot/filter from below, as in the samples from Bosch, so that we can identify any corrosion (brown ring) or oxidation (e.g. white particles)

Thanks for your cooperation.

So that you can see that the incidence of damage is declining, I am sending you my latest failure list and would refer you in particular to the "km over folder. ;-)

Have a nice weekend!

Best regards

Non-responsive content removed

From: Non-responsive content removed

Sent: Thursday, November 13, 2008 8:52 PM

Non-responsive content removed

Subject: UM images for swift diagnosis, fuel not OK for future field pumps without returns

EA11003EN-00034[1]

Dear meeting, as discussed yesterday, here are two photos of the UM for general assessment of water in the fuel.

We wish to help you in assessing future field failures (outside of that you receive as photographic evidence only.

This should make it possible to differentiate "actual" drivetrain damage from damage that has clearly resulted from too much free water in the diesel.

It is not possible to make guaranteed decisions on they basis of the photos.

Normal:

<<4A88 ZME-2.jpg>>

Discolored (good example of not OK fuel; not artificially colored):

<<4A47_ZME 2.jpg>>

Best regards / mit freundlichen Grüßen

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EA11003EN-00034[3]







Deposits in the swirl pot











Deposits on the screen in the swirl pot





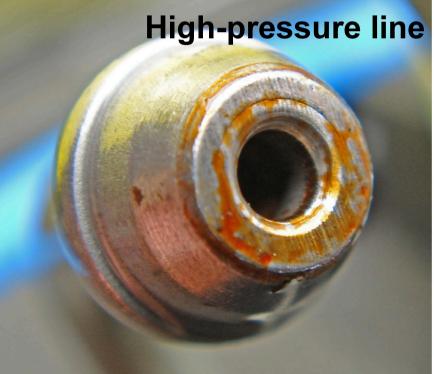
Deposits in the fuel filter





Deposits on connections







Deposits in the fuel samples





Corrosive deposits on the metering unit filter





Traces of corrosion on the metering unit





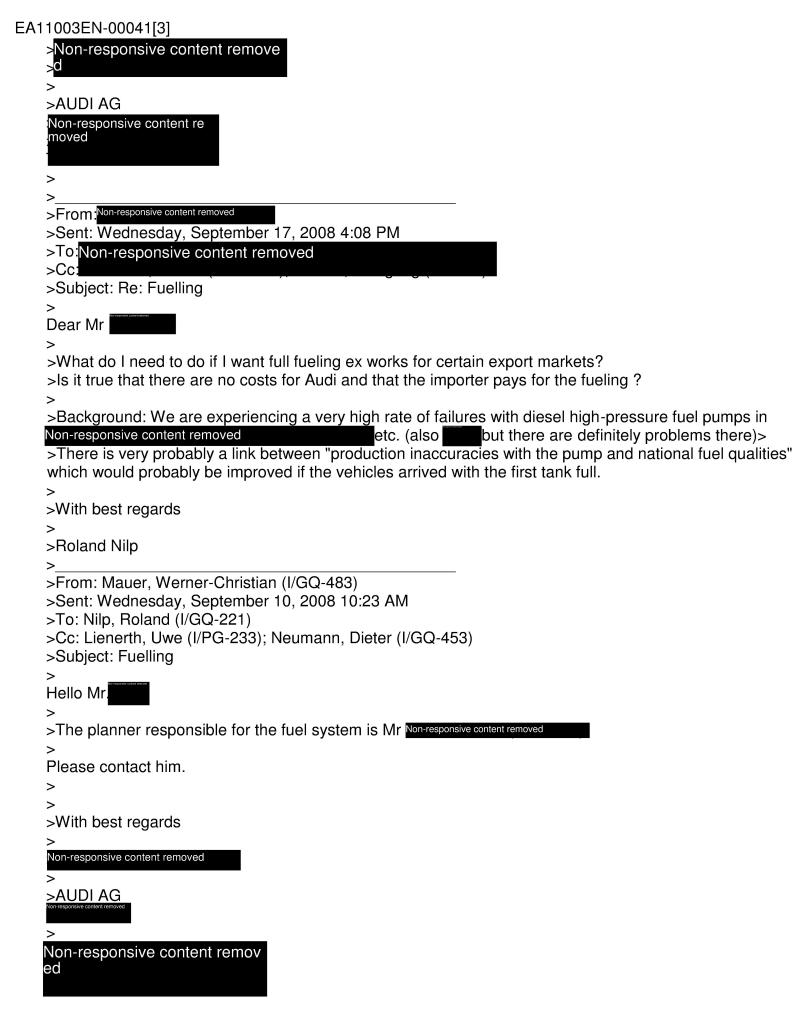
To:	Non-responsive content removed
CC:	
Date:	10/8/2008 10:08:00 AM
Subject: Attachments:	Re Non-responsive content removed Liste Triebwerkschäden CP4 07.10.08.xls
Dear Non-responsive content removed 08.05.2008.	there are now 2 confirmed failures from with FD 06.05.2008 and
Also a confirmed ZP7 failure (not yet verified) with FD 07	
company in from a As far as I know, in For quality reasons I would initial fueling should take pla	depending on dealer's wishes, a quantity of 10 l of fuel is filled by a logistics non-public gas station. I the B8 is filled with 8 liters of fuel. ask that if full fueling is not possible (according to responsive content removed) then a max. acce on the line in for vehicles for responsive content removed to ensure that there is useling at the port storage location. The same needs to happen for and
How can this be clarified wi	th the importer? What quota already receive the 10 liters in
Dear Mr AT the cardown meeting on of these?	02.10 you reported a large number of pumps after FD launch; can I have a list
PS: CS should please obtain	n the pump from vehicle 8T08A045409 from ! (as promised)
Attached please find the late	est failure list.
>With best regards	
Non-responsive content ren	nov
AUDI AG Non-responsive content r emoved	

>Sent: Wednesday, September 24, 2008 10:05 AM

EA11003EN-00041[1]

Non-responsive content removed

```
EA11003EN-00041[2]
    Non-responsive content removed
    >Subject: Re: Fuelling
    >Importance: High
    Dear All,
    For your information:
    >With best regards
      Non-responsive content remo
    >
    From: Non-responsive content removed
    >Sent: Tuesday, September 23, 2008 12:26 PM
    >Non-responsive content removed
    >Subject: Re: Fuelling
    >Importance: High
    >Hello Mr. Non-responsive content removed
    > and I are anxious to switch the markets in Non-responsive content removed (and perhaps also to "full
    fueling" until the topic of "increased failures in existing export markets" has been clarified!
    >See failure file folder 2.
    >Please arrange for the changeover on the line in Non-responsive content removed for all EU5 engines with CP4.2.
    >Thanks!
    > < File: Non-responsive content removed Liste Triebwerkschäden CP4 19.09.08.xls >>
    >
    >With best regards
    >From: Non-responsive content removed
    >Sent: Thursday, September 18, 2008 7:59 AM
    >Non-responsive content removed
    >Subject: Re: Fuelling
    >Good morning Mr.
    >this subject has been a talking point internally for some time.
    >For further information please contact Non-responsive content removed
    >Please attend the next meeting to clear up other detailed questions.
    >If you have any further questions about fueling I would be pleased to assist you
    >With best regards
```



EA11003EN-00041[4]

Non-responsive content remove

EA11003EN-00043[0]

From: Non-responsive content removed
To:
CC:

Date: 12/16/2008 11:00:44 AM **Subject:** Re: Q7 BIN5 full fueling

Attachments: As requested

Dear Dr. attached please find the technical background as outlined by Mr in the markets.

The quality of diesel fuel, in particular lubricity, in the USA is very poor In order to ensure a secure startup, therefore, we requested full fuelling for the series launch in USA in consultation with

With best wishes

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Registergericht/Court of Registry: Amtsgericht Ingolstadt

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>From: Non-responsive content removed

>Sent: Tuesday, December 16, 2008 8:03 AM

>To: Non-responsive content removed

>Subject: Re: Q7 BIN5 full fueling

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EA11003EN-00043[1]
    Can you see to this?
    >
     Non-responsive content r
      emoved
    > AUDI AG
    Non-responsive content remov
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    Dick, Frank Dreves, Peter Schwarzenbauer, Axel Strotbek, Werner Widuckel
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    constitute a representation that the content of this e-mail is legally relevant and/or is intended to be
    le>gally binding upon AUDI AG.
    >
    >
    >From: Non-responsive content removed
    >Sent: Monday, December 15, 2008 4:04 PM
    >To:Non-responsive content removed
    >Subject: Q7 BIN5 full fueling
    >Dear Mr Non-responsive content removed
    >The full fueling of the Q7 BIN5 is still under discussion in the Q7 steering group because it involves
    substantial extra effort on the part of Production in
                                                          . Is there any documentation to explain the
    technical background to this measure? This would help me a lot in discussions in the team.
    Thank you for your support.
    >With best regards
    Non-responsive content removed
    >AUDI AG
    Non-responsive content rem
    >oved
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EA11003EN-00043[2]

>Non-responsive content removed

>www.audi.com

>

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>

From: Non-responsive content removed

To: CC:

Date: 12/16/2008 9:45:52 AM

Subject: As requested

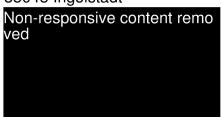
Attachments: Erhöhung Erstbefüllmenge Non-responsive content removed

>With best regards

> Non-responsive content removed

AUDI AG

85045 Ingolstadt



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ensure "clean" fuel for the fuel pump run-in phase. However, there were capacity problems regarding

fueling in An additive solution was also discussed.

EA1 \$003EN-00046[1] >What is the current situation? Has the procedure now been defined and is implementation arranged? > Please let me know. > Non-responsive content removed >

Non-responsive content removed
>VOLKSWAGEN AG

D-38436 Wolfsburg

>Germany

>

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- >www.volkswagen.com VOLKSWAGEN AG
- >Sitz/Domicile: Wolfsburg
- >Registergericht/Court of Registry: Amtsgericht Braunschweig
- >HRB Nr./. Commercial Register No.: 100484
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EA11003EN-00047[0]

From: Non-responsive content removed To: CC:

Date: 3/24/2009 12:48:35 PM

Subject: Increased initial filling V6 CR in the Touareg



For the highest volume vehicle, the Touareg, we have increased the first fill for the V6.



30 liters

>2. Non-responsive content removed

Non-responsive content removed

>

```
EA11003EN-00047[3]
    >Why suddenly 30 liters?
    p to now the message was unambiguously "full fuelling": < Message: ANS: >> . It took a lot of effort to
    make this happen in the case of the V6TDI-Bin5 in the Touareg
    >How is it ensured that the 30 L passes through the pump unadulterated? Do we tell the customer that his
    pump can malfunction if he refuels too soon or should we tell the dealer to deliver the car with a full tank?
    What is the first things people do after collecting a new car?
    >In my opinion, 30 I represents a theoretical filling amount at best that can only help the pumps to run in
    if the general conditions are consistently met. Because we no longer have any control after the vehicle is
    delivered, the risk associated with a 30 Liter fill seems too great
    >Full fueling should still be required until fundamental remedial measures are implemented on the pump,
    unless adulterated diesel will also have the same result.
    >Regards
    >
    >From: Non-responsive content removed
    >Sent: Monday, February 23, 2009 4:50 PM
    >To Non-responsive content removed
    >Subject: Re: Retrofitting campaign AU716 Clean Diesel - Planning 2. batch BIN 5
    Dear Mr
                                            Non-responsive content removed VW Brand Quality Assurance
    >It was agreed between
                               that the first fuelling of the V6 Volkswagen for the Non-responsive content removed
           markets should be increased to 30 liters in the case of the Touareg.
    The Phaeton is still outstanding, but this is secondary for me because of the unit volume in the markets.
    If it is possible to provide a larger quantity at first fueling without additional effort (timing in car plant) and
    the importer bears the additional cost, then there is no reason not to choose a full tank.
    Until then, the 30 liter volume applies to these markets. This also applies to other markets, such as the
    USA.
    >
    Regards
   Non-responsive conte
   nt removed
    > Volkswagen AG
   Non-responsive content removed
    >
   Non-responsive content r
   emoved
```

>With best regards

- >www.volkswagen.com VOLKSWAGEN AG
- >Sitz/Domicile: Wolfsburg
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EA11003EN-00047[6]
    >binding upon VOLKSWAGEN AG.
    >
    >
    >
    >From:Non-responsive content removed
    >Sent: Wednesday, January 28, 2009 11:27 AM
    >To:Non-responsive content removed
    >Cc:
    >Subject: Re: Retrofitting campaign AU716 Clean Diesel - Planning 2. Batch BIN 5
    >Importance: High
    > One more thing:
    >TO keep costs low, it was decided in the quality offensive only to increase the amount of fuel for the
    following markets (delivered with at least 30 liters - full is possible):
    ve content r
>emoved
    >
    Regards
       -responsive content remo
    From: Non-responsive content removed
    >Sent: Wednesday, January 28, 2009 11:12 AM
    >To:Non-responsive content removed
    >Subject: Re: Retrofitting campaign AU716 Clean Diesel - Planning 2. Batch BIN 5
    >Importance: High
    >Hello Mr
     >if you need technical support in relation to the failure mechanism of the high-pressure fuel pump, just
     mail me..
    Regards
     Non-responsive content rem
     Non-responsive content removed
    > Volkswagen AG
    >Non-responsive content removed
    > 38436 Wolfsburg
    >Non-responsive content removed
    >
    >
    >
```

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>AUDI AG

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>VOLKSWAGEN AG

D-38436 Wolfsburg

Germany

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>www.volkswagen.com VOLKSWAGEN AG

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EA11003EN-00047[9]

- >Registergericht/Court of Registry: Amtsgericht Braunschweig
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>

>

>

EA11003EN-00048[0]

m: Non-responsive content removed

To: CC:

Date: 3/14/2011 2:54:00 PM

Subject: Diesel samples from VW plant in Kaluga

Attachments: 11 0390 - DK - Beprobung Non-responsive content removed .pdf

Kraftstoff CKD.pdf Kraftstoff SKD.pdf

Hello Mr.

We have finally received the official analysis of the two fuels from your plant.

The SKD fuel is, to put it mildly, dreadful.

The CKD fuel is acceptable.

Please change SKD production over to CKD fuel as guickly as possible.

Please let us know how far you have progressed with this.

There should be an ongoing check to ensure that the CKD fuel really does come from the aforementioned refinery in

Non-essporates content removed

Best regards

Non-responsive content removed

AUDI AG I/GQ-221

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From: Nonresponsive content removed
Sent: Monday, March 14, 2011 1:26 PM

To:

>Subject: Re: Offer for DK analysis -- investigative report 0390

Dear Mr

Attached please find the report for the diesel samples from

At Mr request/suggestion I have also commissioned an investigation into impurities caused by element traces. This will enable us to offer information about the silicium content (defoamer).

With best wishes

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AUDI AG

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EA11003EN-00052[0]

Non-responsive content removed From:

To: CC:

Date: 3/14/2011 4:32:17 PM

Subject: Examination report 0390 - UPDATE

Attachments: 11 0390 - DK - Beprobung Non-respons neu.pdf

> Kraftstoff CKD neu.pdf Kraftstoff SKD neu.pdf

Hi all,

Here is an updated version of examination report 0390 relating to the fuel samples from

With best wishes

Non-responsive content removed

Audi AG

Non-responsive content rem oved

www.audi.com

Sitz/Domicile: Ingolstadt

Registergericht/Court of Registry: Amtsgericht Ingolstadt

HRB Nr./Commercial Register No.: 1

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EA11003EN-00056[0]

From: Non-responsive content removed

To:

CC:

Date: 4/8/2011 6:55:08 PM

Subject: Re: OE2 Manager Meeting, 12.04.11
Attachments: OE2-Leiter Treffen 12.04.11.ppt

With best wishes

Non-responsive content removed

AUDI AG

>85045 Ingolstadt

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http://www.audi.com

Sitz/Domicile: Ingolstadt

Registergericht/Court of Registry: Amtsgericht Ingolstadt

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From: Non-responsive content removed

Sent: Friday, April 08, 2011 2:20 PM

Non-responsive content removed

Subject: Re: OE2 Manager Meeting, 12.04.11

Can you please send me the slides with pictures?

Best regards

From: Non-responsive content removed

Sent: Friday, April 08, 2011 12:19 PM

To: Non-responsive content removed

Subject: Re: OE2 Manager Meeting, 12.04.11

With best wishes

Non-responsive content removed

AUDI AG

85045 Ingolstadt

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http://www.audi.com

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From: Non-responsive content removed

Sent: Friday, April 08, 2011 11:06 AM

To: Non-responsive content removed

Subject: OE2 Manager Meeting, 12.04.11

< File: OE2-Leiter Treffen 2.04.11.ppt

I'm coming down.

EA11003EN-00058[0]

From: Non-responsive content removed

CC:

Date: 5/14/2011 12:17:21 PM
Subject: First fueling with SKD Kaluga

Dear Dr. Non-responsive content removed

Last week, having converted the gas station, we changed the SKD diesel fuel to the first fueling fuel from

Greetings from

Yours sincerely,

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Non-responsive content removed

EA11003EN-00059[0]

From: Non-responsive content removed

To: CC:

Date: 6/28/2011 7:49:59 AM Subject: Initial filling regulations

Attachments: Entlüftung, Erstbefüllung des ND-Systems Inline-EKP 2,0I CR.pdf

Hello Mr.

as discussed, here are the current initial fill regulations for 4-cylinder engines with CP4.1 HDP. They date from 2007.

With best wishes



EA11003EN-00112[0]

Non-responsive content removed From:

To:

CC:

Date: 16.02.2009 16:28:02

Topic: NSU pre-fueling / initial start-up

Attachments: 20090216162659581.pdf

your scan is attached to this email

EA11003EN-00124[0]

From: Non-responsive content removed

To:

Date: 3/12/2010, 10:06:04 AM

Subject: Max. vapor pressure in fuel system

Hello

In preparation for the construction of an E20 Diesel vehicle, I am clarifying the component requirements. How high should the maximum vapor pressure of the fuel be to avoid permanent damage to the fuel system, specifically the high-pressure pump?

I seem to remember one of the Bosch people stating that the pump can handle up to 30% gasoline.

Regards,

To:
Non-responsive content removed
CC:

Date: 4/16/2010 9:22:26 AM

Subject: Re: Investigation report into Denver diesel fuel - poor start with 2,0l TDI BIN5

Attachments: 10 0667 - DK - Kältetauglichkeit - Station USK2 - Hr.

Auswertung 19-10 Nr.1.pdf Auswertung 19-10 Nr.2.pdf

Hi all,

In the USA, fuels are subject to standard ASTM975.

This defines lubricity as max. 520 μ m, i.e. Denver fuel is a little outside the standard with 530 μ m Continuous testing is always verified at Bosch with diesel fuel 1 grade poorer, i.e. for USA 570 μ m (GDK570).

For further verification, two continuous pump tests are also run for 100 hours with a lubricity of 650 μ m (GDK650).

This is the reason why the USA pumps for R4 and V6 TDI have a C-coated piston

Summary: The measured fuel properties should not pose a problem for the resilience of the pump. This is particularly the case because the viscosities are relatively good with 2.6 and 2.72. Excessive water content has a worse effect.

PS: Naturally none of this has anything to do with starting performance.

With best wishes

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AUDI AG

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EA11003EN-00141[1]

Non-responsive content removed

From: Non-responsive content removed

Sent: Thursday, April 15, 2010 12:40 PM

Non-responsive content removed

Subject: Re: Investigation report into Denver diesel fuel - poor start with 2,0l TDI BIN5

Hi all,

Attached for your information please find the analysis report for the diesel fuel from Denver and from the "mountains"

The comment on the lubricity of the fuel seems important to me.

AUDI AG

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From: Non-responsive content removed

Sent: Thursday, April 15, 2010 10:13 AM

Non-responsive content removed

Subject: Re: Investigation report 0667

Hello gentlemen,

Unfortunately this took longer than expected, but I am now sending you the results for the two fuels from the USA.

With best wishes

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From: Non-responsive content removed

Sent: Thursday, April 15, 2010 9:22 AM To: Non-responsive content removed

Subject: Investigation report 0667

Hello Mr.

EA11003EN-00141[2]

Attached please find investigation report 0667.

< File: 10 0667 - DK - Kältetauglichkeit - Station USK2 - Station

With best wishes

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EA11003EN-00146[0]

From:

Non-responsive content removed

To:

CC:

Date: 6/18/2010 12:33:17 PM

Subject: CP4 Statistics

Hello gentlemen,

Our focus is on the CP4.1

A, Drivetrain damage

B, Particles in the intake valve

C, leaks in the shaft seal

Kind regards,

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AUDI HUNGARIA MOTOR Kft.

Non-responsive content remove d

http://www.audi.hu

EA11003EN-00148[0]

From: Non-responsive content removed

To:

Date: 10/29/2010 4:20:40 PM

Subject: Winter performance of 125KW TDI in the Passat CC

Hello Mr.

Please pass this on to your colleagues for information purposes:

It is not advisable to use a fuel mix of diesel and kerosene with our current fuel-lubricated CR systems with the high injection pressures up to 1800 bar. The fuel quality in some parts of is so poor in terms of lubricity, risk of corrosion, water content, etc. that it generally very demanding on the robustness of the high-pressure pump. If poor lubricity kerosene is also used, then the situation can quickly become critical, so that the possible damage resulting from a pump failure can quickly become very expensive because it is then necessary to replace the entire system from the tank to the high-pressure side.

We are currently working on special robustness measures in our high-pressure components for new markets where fuel quality is poor but where a component from our sales region is unavailable. The risk generally applies to all fuel-lubricated CR systems, irrespective of the manufacturer and is naturally linked with the more stringent requirements, in particular the higher injection pressures.

Best regards,



From: Non-responsive content removed

Sent: Friday, October 29, 2010 12:18 PM

To: Non-responsive content removed

Cc:

Subject: Re: Winter performance of 125KW TDI in the Passat CC



Claus is the man to talk to about regeneration security. He or one of his team is the best person to advise Andreas about injection equipment.



From: Non-responsive content removed

Sent: Friday, October 29, 2010 9:01 AM

To: Non-responsive content removed

Subject: Re: Winter performance of 125KW TDI in the Passat CC

Dear

Can you help me with the question below? f not, who should I talk to?

With best wishes



EA11003EN-00148[1] Non-responsive content removed Germany Non-responsive content removed

www.volkswagen.de

Volkswagen Aktiengesellschaft Headquarters: Wolfsburg

Court of Registry: Amtsgericht Braunschweig

Registry no.: 100484

Chair of the Supervisory Board: Ferdinand Piëch

Executive Board: Martin Winterkorn (Vorsitzender), Francisco J. Garcia Sanz, Jochem Heizmann,

Christian Klingler, Horst Neumann, Hans Dieter Pötsch, Rupert Stadler

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From: Non-responsive content removed

Sent: Thursday, October 28, 2010 6:28 PM

To: Non-responsive content removed

Subject: Re: Winter performance of 125KW TDI in the Passat CC

Dear

Can you help me here by referring me to someone who can answer my questions?

My brother-in-law wants to switch to a CC (currently drives a BMW) and needs an answer to the diesel question because he needs to travel a lot in the diesel question because he needs an analyse he n

Thank you and best wishes,

From: Non-responsive content removed

Sent: Thursday, October 28, 2010 9:08 AM

Non-responsive content removed

Subject: Winter performance of 125KW TDI in the Passat CC

Dear

I would advise a Passat CC, possibly with the 125KW Diesel, DSG, front drive. With regard to the question that the dealer was unable to answer satisfactorily: if I drive to at the end of January Non-responsive content removed then can I only use a kerosene to diesel

1:6 if I do not wish to risk damaging the car? There is no winter diesel available there however kerosene is available at the pumps for precisely this purpose. Will I experience problems with my particle filter?

Perhaps you can give me a well judged answer with your broad network of connections within the company.

Best regards,



EA11003EN-00148[2]

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Managing Directors Heinz Ulrich Hensgen, Dr. Alex Alexandridis Registered offices: Darmstadt, Eingetragen im Amtsgericht Darmstadt HRB 7030

Chair of the Supervisory Board: Dr. Sönke Mehrgardt

UID: DE 813236379

Dresdner Bank AG Darmstadt
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please notify me immediately by telephone Non-responsive content removed communication and any attachments without reading or copying. Thank you.

nd delete this

EA11003EN-00149[0]

From: Non-responsive content removed

To:
CC:

Date: 4/19/2011 10:55:02 AM
Subject: Re: EVN in // Caddy

Attachments:

Laenderfreigabe Einspritzung.pdf

Dear Ms Non-responsive content remov

I would like you to clarify the points you mention:

- Are the resources and capacities available for a Caddy?
- Caddy project management, will a Caddy be sent along and what engine will it have
- will the Caddy benefit from the passenger vehicle tests with the relevant engines

FA is interested!

Please let us know in good time when the continuous test is due to take place, so that we can send components ahead.

Here are some comments and attachments:

Extract from the list of diesel countries:

Response from EAD National releases for diesel engines

Note: Situation in

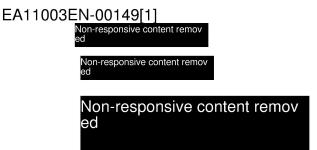
We still see the market as critical for releases because of the lack of robustness of the high-pressure fuel pumps in relation to the poor lubricity of the fuel available on the market. This is particularly the case in winter when the fuel is mixed with kerosene or petrol, causing a further deterioration in the viscosity/ lubricity.

We also believe that the desire to serve a market with different diesel engine concepts (EU3, EU4, EU5) as problematic because it is not possible to ensure the necessary quality when fueling. We believe that the EU4 high-pressure fuel pump currently undergoing validation (AWP = RP0+RP1) is closer to the necessary robustness, however robustness measure "RP0" is not planned in the EU5 HPFP.

The further development of the RP1 (currently in EU4 HPFP) to RP1+ (then for EU4 and EU5 HPFP) should go into serial production in 2011.

We are working on a strategy involving a unitary HPFP with the same robustness for all diesel engines with Bosch HPFP.

With best wishes



VOLKSWAGEN AG Sitz/Domicile: Wolfsburg

Registergericht/Court of Registry: Amtsgericht Braunschweig

HRB Nr./. Commercial Register No.: 100484

Vorsitzender des Aufsichtsrats/Chairman of the Supervisory Board: Ferdinand K. Piëch

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>
>From: Non-responsive content removed
>Sent: Tuesday, April 19, 2011 11:15 AM
Non-responsive content removed
>Subject: Re: EVN in
>
>Hello Mr.
<u>—</u>
>Amaroks and T5 are already running. still has the resources and capacities for a Caddy;
the engine type would have to be agreed
>
- Caddy project management will decide if a Caddy is to be sent along and what engine will it have This
depends on the interest shown by the specialist departments. It is not known if the Caddy is already
benefiting from the passenger vehicle tests with the relevant engines
>
>
> With heat records
>With best regards
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ved
>
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```
EA11003EN-00149[3]
    >Dear Sir/Madam,
    >NE Entire Vehicle runs continuous tests in
    >If there is technical interest in this and release recommendations for service intervals can be
    supported. it is possible also to run 1 Caddy.
    Does such interest exist and, if so, how should the vehicle be equipped?
    >
    >With best regards
    Non-responsive content remov ed
    Non-responsive content remo
    ved
    Non-responsive content removed
    >
    >Bertrandt Ingenieurbüro GmbH - Managing Directors: Ulrich Subklew, Thomas Martens >
    >Domicile: Tappenbeck, District Court: Braunschweig, HRB 100280
    >
    >
    >
    From: Non-responsive content removed
    >Sent: Monday, April 11, 2011 5:30 PM
    >To: Non-responsive content removed
    >Subject: Re: EVN in
    >
    >
    > < File: Caddy KW15.ppt >>
    >With best regards
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     >moved
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    >
    >
```

From: Non-responsive content removed

EA11003EN-00149[4] >Sent: Monday, April 11, 2011 5:28 PM >To:Non-responsive content removed >Subject: EVN in Caddy Dear Mr >Could you please send us the documents shown so that we can access the minutes from the meeting? > >With best regards Non-responsive content remov ed Non-responsive content remo ved Non-responsive content removed > >Bertrandt Ingenieurbüro GmbH - Managing Directors: Ulrich Subklew, Thomas Martens >Domicile: Tappenbeck, District Court: Braunschweig, HRB 100280

>