EA11003EN-00189[0]

From: Non-responsive content removed
To:
CC:
Date: 9/26/2008, 2:37:00 PM
Subject: Subject:
Attachments: Bandende-Einlaufspezifikation_V6TDI_20080529.pdf
Diesel Hochdruckpumpe C6PA.pdf (high-pressure diesel pump C6PA)

FYI after telephonic conversation with Non-responsive content removed

>With best regards
>
Non-responsive content removed

AUDI AG
[redacted]
85045 Ingolstadt
Non-responsive content removed

>_____
Non-responsive content removed

>Subject: Re: Fuel presupply to V6 TDI in C6PA (2.7 L and 3.0 L TDI)
>Importance: High
>
>Hello Non-responsive content removed
>
>Please take up this matter.
>Please make sure that the process requirements of the TEs are permanently implemented.
>These installed pre-fillings have been omitted already in various plants through CIP
or change to model year.
The launch regulation for V6 TDI exists today as a "normal pdf document", but should be converted shortly to PDM Non-responsive content removed
>If PDM is the wrong document to ensure compliance with the process, then I request for counterproposals.
>

EA11003EN-00189[1]

>
>
This concerns all common rail concepts with high-pressure fuel pump CP4 (EU5 and higher, not interim), i.e.
currently all 2.0 l CR (common rail) + V6 CR (without D3 V6 EU4; D3 + Q7 V8 EU4); also V8 TDI EU5 and V12-TDI.
>This must be ensured in all Non-responsive content removed
>Please forward to the concerned departments.
Thank you.
>
>Hello Non-responsive content removed
>Please take care of process regulation V8 and V12 TDI and 2.0 l CR (common rail) of VW.
>
>
>
>With best regards
>
>Non-responsive content remo
>ved
>
>
>AUDI AG
>
>85045 Ingolstadt
>Non-responsive content rem
>oved
>
>
>_____
Non-responsive content removed
>Subject: Fuel presupply to V6 TDI in C6PA (2.7 L and 3.0 L TDI)
>
>Good morning colleagues,
>
>On my visit yesterday to the C6-production site here in Non-responsive content removed, I found that the required pre-filling time of 240 s had not been ensured although the function for fuel pre-filling in the engine control unit was re-activated.
>Despite my instruction (Thu 09.18.) not to start a vehicle which has not been subjected to adequate pre-filling; vehicles, whose fuel system were pre-filled only for about 120 s, were still started.
>
>Two additional ignition changes could be integrated in the production process as an immediate measure to ensure the required fuel prefilling. In this way, the required pre-filling duration was achieved for all vehicles which were built (after Thu Sep 25 2008 16:45 with vehicle registration number 40 1 2354, vehicle (chassis) identification number WAU ZZZ 4F29N005505). This measure is taken until Thu 10/02. At this point, the fuel prefilling should be integrated into the overdrive path by remodeling the test program. (See attached correspondence)
>
>The fuel prefilling that has been implemented in C6 has fallen a victim of CIP (Continuous Improvement Process) measures;

EA11003EN-00189[2]

therefore, it is no longer available in C6PA to the required extent (240 s pre-filling time). Unfortunately, those responsible for the fuel prefilling are unaware of these "CIP optimizations" and the associated reduction in the pre-filling times. Therefore, we have to also ensure that future CIP measures do not negatively influence fuel presupply once again.

>One possibility is to mark the program parts and program steps that are required due to pre-filling with clear comments in the test sequence to avoid their change due to lack of knowledge.

>

>Non-responsive content removed

>Please see to it that the program parts are marked with clear comments.

>

>

>

>With best regards

>

>Non-responsive content removed

>

>

>

>

>AUDI AG

>

>74148 Neckarsulm

>Non-responsive content re

>moved

>

>

>Non-responsive content removed

>http://www.audi.com

>

>Sitz/Domicile: Ingolstadt

>Court of Registry: Local District Court Ingolstadt

>Commercial Register No.: 1

>Chairman of the Supervisory 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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>

>

>_____

Non-responsive content removed

>Subject: Fuel presupply to V6 TDI in C6PA (2.7 L and 3.0 L TDI)

EA11003EN-00189[3]

>
>
>Dear Sir/Madam,
>
>To avoid preliminary damage to the new V6 TDI high-pressure fuel pump in C6PA,
the fuel pump in the vehicle tank must have run for at least 4 min. (240 s) before initial engine start
>(For TE specification, see Attachment below).
>
>Unfortunately, we do not achieve this 4 min. specification during the various ECOS tests as of now.
>
>The production dept. helps us immediately through a worker, who turns on the ignition
and turns it off after at least 60 s presupply time.
>(By turning on the ignition after wet calibration of fuel tank, the pump runs automatically
>for 60 sec. Turning off the ignition stops the pump immediately.)
>
>1. Door mounting platform: The worker (door assembly) turns on the ignition after door installation
and the next worker (B pole and N-position gearbox) turns off the ignition. -->
> 1 min. fuel prefilling.
> Agreed with Non-responsive content removed
>
>2. Overdrive path: The operator (functional test) turns on
the ignition after the functional test and the next worker turns off the ignition
after at least 60 s. -> 1 min. fuel prefilling.
> > Agreed with Non-responsive content removed
>
>These two measures should be allowed to run until the test program is modified along the overdrive path. The deadline for this is Thu Oct 02 11:00 AM.
>
>Today, we have already set about 60 s fuel prefilling in the "wet calibration of fuel tank" test program and about 60 s fuel prefilling in the "functional test" at the overdrive path.
>
>Through other changes in the test program, we want to fulfill the TE (Technical Development) specification of 4 min.
>Deadline for activating the new test program in the production is Thu Oct 02 11:00. AM
>Agreed with Non-responsive content re moved and verification by Non-responsive content remo ved
>
>Guaranteeing the preliminary fuel supply of 4 min. starting from Thu Sep 25 2008 16:45 with vehicle:
>Registration number 40 1 2354
>Vehicle (chassis) identification no. WAU ZZZ 4F29N [redacted]
>Cycle 68
>
>Thanks again for the prompt support.
>
>Attachments:
>
> < File: Bandende-Einlaufspezifikation_V6TDI_20080529.pdf >>
> < File: Diesel Hochdruckpumpe C6PA.pdf >>
>
>
>Best regards
>Non-responsive content removed
>
>
>
>
>

EA11003EN-00189[4]

>Audi AG plant in Neckarsulm
>Non-responsive content removed
>
>
>74172 Neckarsulm
>Non-responsive content removed
>
>
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>
>
>Domicile: Ingolstadt
>Court of Registry: Local District Court Ingolstadt
>Commercial Register No.: 1
>Chairman of the Supervisory 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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>
>

INLET SPECIFICATION FOR V6 TDI COMMON RAIL SYSTEMS FOR THE VEHICLE-PRODUCING PLANT

Exhaust concepts:

7MG	EU5
7ME	EU6
7GA	BIN5

Contact person Audi: Non-responsive content removed

Non-responsive content removed

Status: August 2007, Version 1.1

Inlet specification for V6 TDI common rail systems

Target:

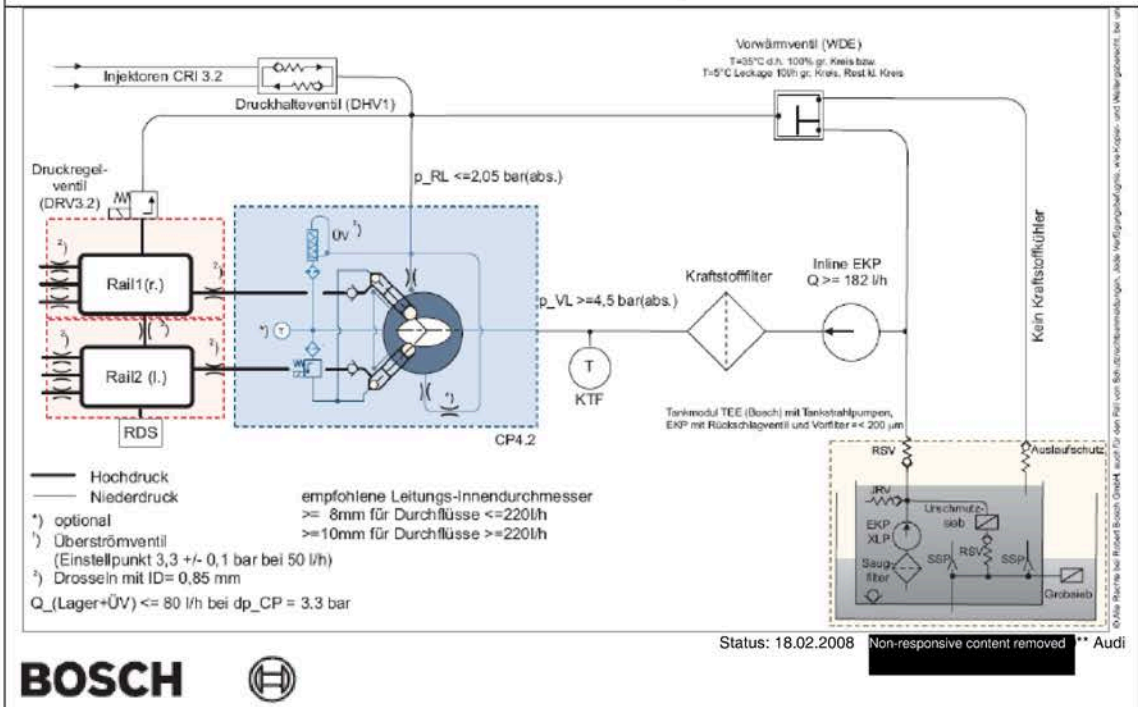
- To avoid damage to the high-pressure fuel pump from it running dry, shortest possible first engine start with the fastest possible fuel supply is required.

- To monitor the first start-up times, an automatic first start-up time calculation is necessary in order to detect fluctuations in the manufacturing process.

Content:

1). General information
2). Automatic first start-up time calculation
3). Feedback of the relevant processes to N/EA-62

Common Rail System (CRS3.2) – 1800 bar
Audi V6 3.0l and 2.7l TDI EU5 / EU5 CO_2 in B8



BOSCH

Fig.: Setup of common rail system using the example of Audi V6 TDI EU5 in B8

Injection CRI3.2
Pressure-holding valve
Preheating valve
T = 35 °C, namely 100 % large cycle or leakage of large cycle, rest is small cycle
Pressure control valve
Fuel filter
No fuel cooler
Rail1(r.)
Rail2 (l.)
Tank module TEE (Bosch) with tank jet pumps, EFP with non-return valve and pre-filter = < 200 µm
Leakage protection
Original contamination screen
Intake filter
Coarse screen

High pressure
Low pressure
Recommended line inside diameter
Optional
> = 8 mm for flow rates < = 220 l/h, > = 8 mm for flow rates < = 220 l/h
Overflow valve (setpoint 3.3 +/- 0.1 bar at 50 l/h)
Throttles with ID - 0.85 mm Q_ (bearing + overflow valve) < = 80 l/h at dp_CP = 3.3 bar

Inlet specification for V6 TDI common rail systems

1. General information

- The engine plants deliver "hot" or "cold"-tested engines to the vehicle plants. Air is partly trapped in the injection system (between inflow upstream to HPP and return flow downstream to RL collection point) in the "cold"-tested engines, whereas injection system in the "hot"-tested engine is virtually free of air. The start time of "cold"-tested engines will be longer in comparison between "cold" and "hot"-tested engines.

- Operation of the electric fuel pumps (EFP) of tank and in-line EFP is not allowed before the first fueling to avoid the pump running dry. (Note: If KI15_a cycle before first fueling, then it is mandatory to check whether EFPs are not running. Checking through recording the voltages acting at the EFPs using multimeter by tapping the voltage supply and ground.)

- During wet calibration of fuel tank: An EFP operation before completion of wet calibration of fuel tank is not allowed due to falsification of results. (Note: If KI15_a cycle before wet calibration of fuel tank, then it is mandatory to check whether EFPs are not running. Checking through recording the voltages acting at the EFPs using multimeter by tapping the voltage supply and ground.)

- First engine start shall be conducted at the highest possible speed. Therefore, the support of the vehicle battery through external energization should be ensured to achieve a higher engine start speed and improved rail pressure buildup.

- The fuel system should be actively pre-filled through operation of the EFPs to ensure quickest rail pressure buildup and thus, quick first engine start-up. Pre-filling time of at least 4 min. should be guaranteed. In general, longer pre-filling times have a positive effect on the first engine start. Goal of active pre-filling of the fuel system is to fill the empty fuel system from the tank before first start-up. The air is pushed partially or 100% in the return flow direction of the tank, depending on the location of the intake and high-pressure valves of the high-pressure fuel pump.

- During normal operation of the vehicle, the following conditions lead to activation of the EFPs (tank and in-line EFP):
  1) nEngine > 20/min.
  2) 60 s at KI15_on, when empty tank is detected (< 5 l or not yet > 9 l after refueling) and mileage > 15 km.

- The following first fuel filling functions for first engine start lead to the activation of the EFPs:
  1) First fuel filling function - for first engine start support, the EFPs (both tank EFPs and in-line EFP) are activated for a max. of 60 s at a mileage < 15 km and successful long adaptation (channel 22, value 01) after each ignition (KL15). Note on acoustics: The EFPs also run without an engine up to a mileage of 15 km

  2) The routine 02 provides another option to actively pre-fill the fuel system. In the engine control unit, this routine is triggered for first fuel filling in the engine control unit by the end-of-line test system. This function activates the EFPs at sufficient tank capacity for a set time and thus fills the fuel system.

  3) Besides the two mentioned options of first fuel filling during vehicle production, the EFPs allow activation via a short trip. This can be triggered by the VAS tester and thus enabling the pre-filling of the fuel system, e.g. for the customer service.

2. Automatic first start-up time calculation

The following description uses the example of manufacturing in Neckarsulm to show the implementation of automated first start-up time calculation:

- Engine speed 0-100 rpm. (ECU_1 MW 001/1 value 0-100)
- Request for first start-up (ECU_1 MW 095/4 value 1)
- Start timer of first start-up / start timer of overall first start-up
- Test starting process (ECU_1 MW 095/4 value 0)
- Engine speed 550-1100 rpm. (ECU_1 MW 001/1 value 550-1100)
    - If engine speed has been reached: Stop timer for first start-up
    - If engine speed has not been reached: Break timer for first start-up
        - Ignition change due to automatic start
        - Request for second start (ECU_1 MW 095/4 value 1)
        - Continue timer for first start-up
        - Test starting process (ECU_1 MW 095/4 value 0)
        - Engine speed 550-1100 rpm. (ECU_1 MW 001/1 value 550-1100)
            - If engine speed has been reached: Stop timer for first start-up
            - If engine speed has not been reached: Stop timer for first start-up
                - Request for manual start (with appropriate fault input option)
                - Stop timer for overall first start-up

In this way, one obtains two times - the pure start-up time (namely, the time the starter has turned) and the overall start-up time (how long the worker is needed for the first start-up).

3. Exchange / feedback of following points with AUDI N/EA-62

- Point of contact for the topic of inlet of common rail system
- Production layout with inlet-related work cycles (tank installation, refueling, battery installation, cycle for long adjustment (channel 22, value 01), first fuel filling / duration)
- Fuel line assembly CP4/CP7 (topic of leaking fuel)
- Base refueling quantity (without country adjustment)
- Prevention of wrong fueling
- Wet calibration of fuel tank available?
- How is first fuel filling done?
- Integration of combo with xxx mileage (topic of first fuel filling for first engine start)
- Start-up time calculation method
- Creating list of first start-up times (vehicle no. , SW, duration of fuel initial filling, hot / cold test, start time)

Inlet specification for V6 TDI common rail systems

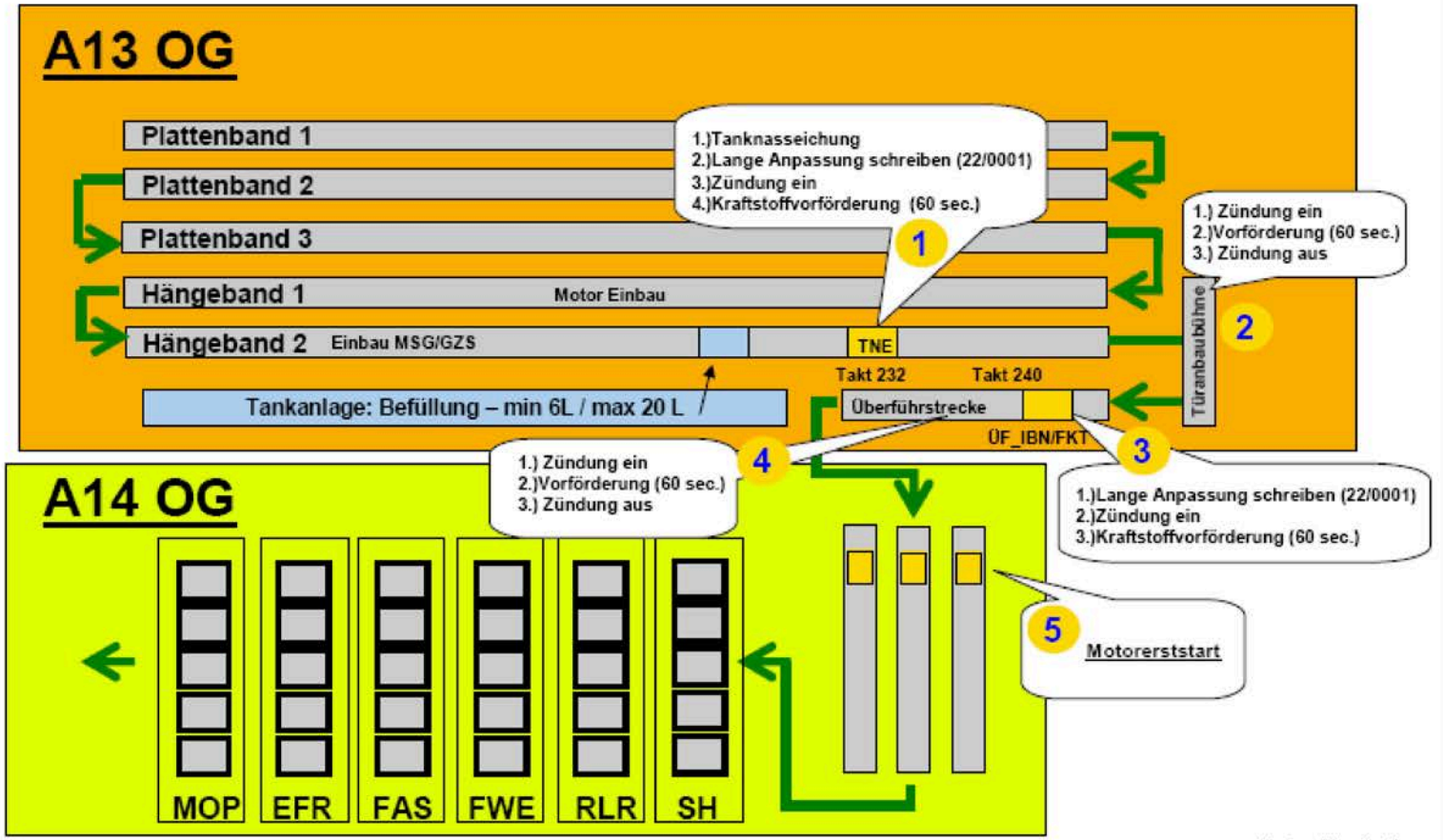
No.	date	Change	Page	Name
1.1	8/8/2007	Newly created inlet specification for common rail systems		Non-responsive content removed

C6PA high-pressure fuel pump V6 TDI

Status as on 09.25.2008

C6PA high-pressure fuel pump V6 TDI

C6 manufacturing line - actual state



Note: Illustrations
Not to scale

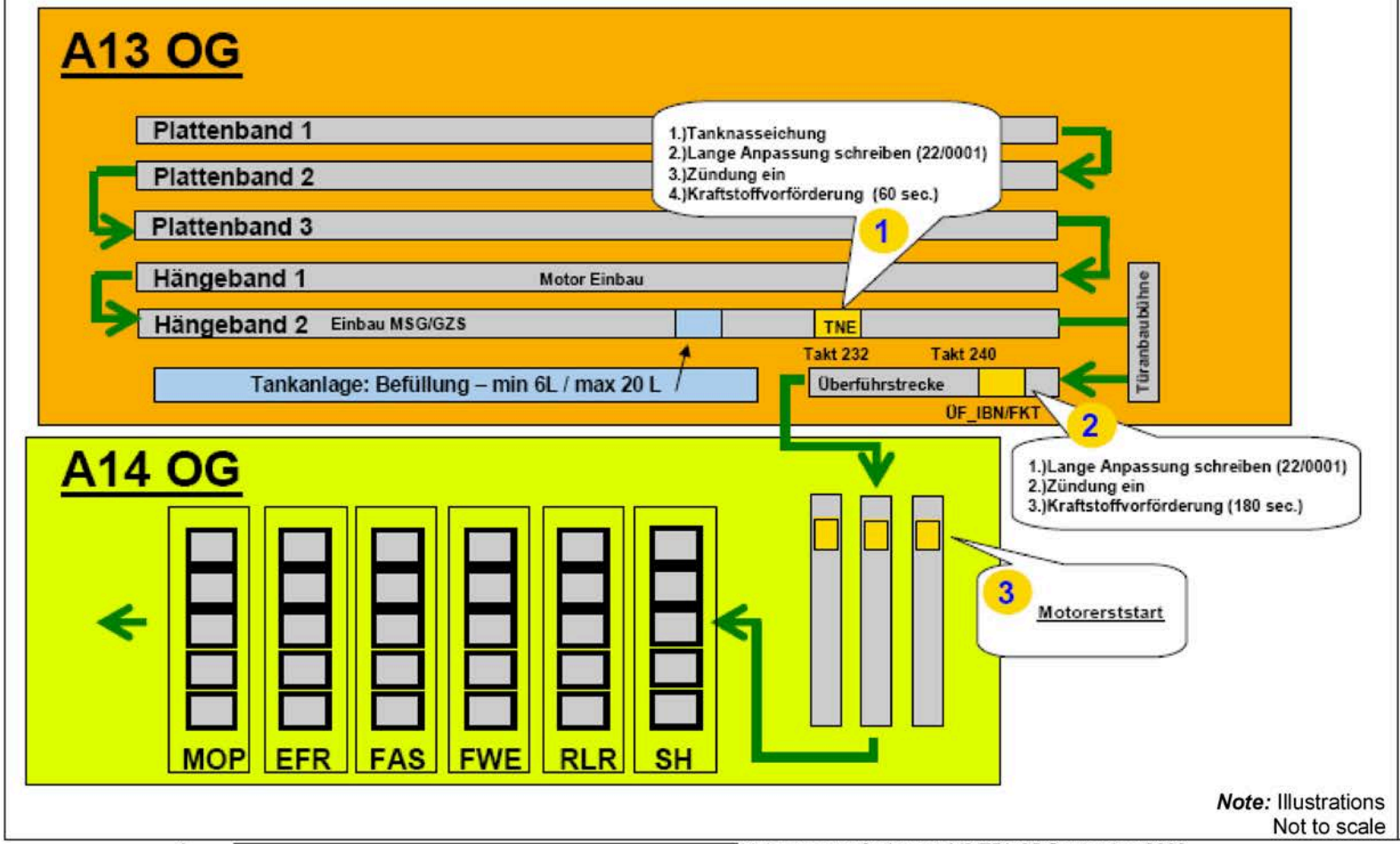
Apron belt 1
Apron belt 2
Apron belt 3
Suspended assembly belt 1
Engine installation
Suspended assembly belt 2
Engine control unit / GZS installation
Fuel tank system: Filling - min. 6 l / max. 20 l
1.) Wet calibration of fuel tank
2.) Write long adjustment (22/0001)
3.) Ignition on
4.) Fuel presupply (60 s)
Clock 232
Clock 240
1.) Ignition on
2.) Presupply (60 s)
3.) Ignition off
Door mounting platform
Overdrive path
1.) Ignition on
2.) Presupply (60 s)
3.) Ignition off
1.) Write long adjustment (22/0001)
2.) Ignition on
3.) Fuel presupply (60 s)
First engine start

Presupply times: Actual state

– Wet calibration of the tank (automatic)	(1)	60 sec.
– Door mounting platform (manual)	(2)	60 sec.
– Overdrive path IBN/FKT (automatic)	(3)	60 sec.
– Overdrive path IBN/FKT (manual)	(4)	60 sec.

Total – time	**240 sec.**

C6 manufacturing line - desired state



Note: Illustrations
Not to scale

Apron belt 1
Apron belt 2
Apron belt 3
Suspended assembly belt 1
Engine installation
Suspended assembly belt 2
Engine control unit / GZS installation
Fuel tank system: Filling - min. 6 l / max. 20 l
1.) Wet calibration of fuel tank
2.) Write long adjustment (22/0001)
3.) Ignition on
4.) Fuel presupply (60 s)
Clock 232
Clock 240
Door mounting platform
Overdrive path
1.) Write long adjustment (22/0001)
2.) Ignition on
3.) Fuel presupply (180 s)
First engine start

Presupply times: Desired state

– **Wet calibration of the tank (automatic) (1) 60 sec.**

– **Overdrive path IBN/FKT (automatic) (2) 180 sec.**

Total – time	**240 sec.**

EA11003EN-00192[0]

From: Non-responsive content removed
To:
CC:
Date: 11/11/2008, 2:48:43 PM
Subject: Re: >Failure V6 TDI high-pressure fuel pumps

Hello [redacted]

We want to refuel all diesel vehicles ex factory. Unfortunately, we cannot implement the proposal with the adhesive tape at the plant here.
Is it possible to avoid refueling of all diesel vehicles by the Non-responsive content removed (e.g. through training)?

Regards
Non-responsive content re moved

If you have any questions do not hesitate to contact me.

Best regards / ?????????? / ? ????????? / ??????? ??????

Non-responsive content removed

AUDI AG
Non-responsive content remo ved
85045 Ingolstadt
Non-responsive content re moved

Non-responsive content removed
http://www.audi.com

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>
>_____
>Non-responsive content removed
>
>
>
>Subject: Intake Valve: >Failure V6 TDI high-pressure fuel pumps
>
>Hello Non-responsive content removed
>
>Unfortunately, that is not currently technically feasible at our place, because there is only a single specification
per dealer in the ordering systems as to whether all vehicles are to be refueled at Non-responsive content removed or not, regardless of the brand. It is not possible to set up refueling for each vehicle
without a system modification.
>
>An idea of our logistics department is that the fuel filler door of these vehicles
is sealed at Audi (adhesive tape, etc. in a particular color). Then
Non-responsive content removed can be easily notified that a vehicle with this special seal should not be refueled, even though the dealer has ordered it.
>
>
>Best regards
>_____
>Non-responsive content removed
>
>Volkswagen Group Sverige AB
>Non-responsive content removed
>SE-151 88 Södertälje
>http://www.volkswagengroup.se
>
>Non-responsive content removed
>
>
>
>
>
>_____
>Non-responsive content removed
>
>
>
>Subject: >Failure V6 TDI high-pressure fuel pumps
>
>Hello Non-responsive content removed
>
>
>
>As part of the analyses of the cases of damage with high-pressure fuel pumps in six-cylinder diesel engines, we want to implement a temporary filling ex factory with 16 liters of diesel,
instead of 8 liters. This should facilitate dispensing with the refueling by Non-responsive content removed at the port after arrival of the vehicles.
>

EA11003EN-00192[2]

>The background is that we would like to analyze the impact of the fuel refueled at the port. You have now been mentioned as a contact to prevent refueling of V6 diesel engines at the port. Can you help me further in this matter?

>

>

>Best regards,

>Non-responsive content removed

>

>

>

>If you have any questions do not hesitate to contact me.

>

>

>Best regards?>????? / >???????????> / ? ?????????

>

>

>

>Non-responsive content removed

>

>

>

>AUDI AG

>

>85045 Ingolstadt

>Non-responsive content r

>emoved

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>http://www.audi.com

>

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EA11003EN-00193[0]

From: Non-responsive content removed
To:
CC:
Date: 11/11/2008, 3:46:00 PM
Subject: Re:
Attachments: Non-responsive content removed Liste Triebwerkschäden CP4 10.11.08.xls

Hello

The adhesive tape control is not feasible in terms of control technology. SECTION CONFIDENTIAL

As discussed, please pass the information, in consultation with us, to importers in Non-responsive content removed that we will be supplying ex factory their AUDI DIESEL from time X with 16-liter refueling, so that the pump can be operated as long as possible with this well-lubricated first-filled fuel, as well as give an "instruction" to the three importers that no harbor refueling or similar may be carried out, except for the customers (dealers).

Please find attached the current statistics of failures.
The graphics "CoD (cause of damage) per 1000" and "km beyond date of manufacture" clearly reflect the situation in the markets and the apparent improvement after manufacturing of pumps from mid-May 2008.
In the list of delivered cases, the color code facilitates you in recognizing the markets, from where we already have a fuel sample or filter sample; you should address the announced cases (in the lower part of the list) in any case.

In any case, we want to further receive reports of failures from all markets for the effectiveness of measures, etc. should include a photo of the type plate, photo of the chips and DISS message and the pumps for analysis, if possible.

>With best regards
>
Non-responsive content removed

AUDI AG
Non-responsive content removed
85045 Ingolstadt
Non-responsive content removed

>_____
From: Non-responsive content removed
>Sent: Thursday, November 06, 2008, 8:27 AM
>To: Non-responsive content removed
>Subject:
>
>Hello
>
>As I've heard nothing more about the high-pressure fuel pump matter, I wanted to enquire about its status?
>
>What do you think of the proposal by to attach an adhesive tape on the gas cap of all vehicles that no longer require refueling?
>
Best wishes,
>Non-responsive content removed

EA11003EN-00195[0]

From: Non-responsive content removed
To:
CC:
Date: 11/20/2008, 4:27:59 PM
Subject: Protocol for first filling of Common-Rail,
Attachments: WG_ Erstbetankung Diesel im Touareg.msg

Hello Non-responsive content removed
Hello

I now hope for the use of HSQ and a modification request does not provide EAD for tank sizes. If necessary, I will provide support to my counterparts if they do not make progress.

But watch out: For the Touareg, we have already implemented in the past (see e-mail). On is the vehicle perhaps subjected to a test drive after refueling? However, we are aware of failures in [redacted] on the [redacted] We are sticking to the initial filling of 16 liters, right?

Regards

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Non-responsive content removed

EA11003EN-00196[0]

From: Non-responsive content removed
To:
CC:
Date: 11/20/2008, 12:46:28 PM
Subject: Subject: First fueling, diesel in the Touareg

Non-responsive content removed

Please find attached the first fueling quantities of diesel in the plant at Non-responsive content removed for the Touareg.

Best regards

Non-responsive content removed

www.volkswagen.com

>VOLKSWAGEN AG
>Domicile: Wolfsburg
>Registergericht/Court of Registry: Local District Court Braunschweig
>HRB Nr./. Commercial Register No.: 100484
>Vorsitzender des Aufsichtsrats/Chairman of the Supervisory Board: Ferdinand Piëch
>Vorstand/Board of Management: Martin Winterkorn (Vorsitzender/Chairman), Francisco J. Garcia Sanz, Jochem Heizmann, Horst Neumann, Hans Dieter Pötsch
>Markenvorstand Volkswagen Nutzfahrzeuge/Members of the Board Volkswagen Commercial Vehicles: Stephan Schaller (Spokesman/Chief Executive Officer), Dirk Große-Loheide, Harald Schomburg, Wolfgang Schreiber, Jochen Schumm, Klaus-Dieter Schürmann, Thomas Ulbrich
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>
>_____
From: Non-responsive content removed
>Sent: Thursday, November 20, 2008, 12:23 PM
>To: Non-responsive content removed
>Subject: RE: First fueling, diesel in the Touareg

>
>Non-responsive content removed
>
>Here are the volumes:
>18l for 1Z0
>21.5l for1Z1
>26l for 1Z2

SECTION CONFIDENTIAL

>
Kind regards,
>
>Non-responsive content removed
>
>
>
>
>
>_____
>From: Non-responsive content removed
>Sent: Thursday, November 20, 2008 11:32 AM
>To: Non-responsive content removed
>Subject: First fueling, diesel in the Touareg
>
>Non-responsive content removed
>
>Could you tell me, how many liters of diesel was filled in the Touareg during the first fueling on the assembly line?
>
Thank you.
>
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>Non-responsive content removed
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>www.volkswagen.com
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>Vorsitzender des Aufsichtsrats/Chairman of the Supervisory Board: Ferdinand Piëch
>Vorstand/Board of Management: Martin Winterkorn (Chairman/CEO), Francisco J. Garcia Sanz, Jochem Heizmann, Horst Neumann, Hans Dieter Pötsch
>Markenvorstand Volkswagen Nutzfahrzeuge/Members of the Board Volkswagen Commercial Vehicles: Stephan Schaller (Sprecher/Chief Executive Officer), Dirk Große-Loheide, Harald Schomburg, Wolfgang Schreiber, Jochen Schumm, Klaus-Dieter Schürmann, Thomas Ulbrich
>
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>

EA11003EN-00197[0]

From: Non-responsive content removed
To:
CC:
Date: 12/12/2008, 3:05:00 PM
Subject: Subject:
Attachments: Entlüftung, Erstbefüllung des ND-Systems.pdf

Addendum to the previous mail.

>With best regards
>
Non-responsive content removed

>_____
>From: Non-responsive content removed
>Sent: Friday, December 12, 2008, 3:00 PM
Non-responsive content removed
>Subject: Re: 10 failures CP4.1 on CP7 in IN
>
>Hello,
>
>In the Technical Development documentation, at least 60 s EFP (electric fuel pump) operation precedes turning of CP4.1 for the first time in the vehicle:
vehicle turns:
>
> :
>
>
>With best regards
>
>Non-responsive content removed
>
>_____
From: Non-responsive content removed
>Sent: Friday, December 12, 2008, 12:30 PM
Non-responsive content removed
>Subject: 10 failures CP4.1 on CP7 in IN
>
>Hello Non-responsive content removed
>
>Since 14 October, we have 10 failures in high-pressure diesel pumps CP4.1 (2.0 l R4-CR) on CP7 (All 10 x IN - see table)!
>There are currently no other failures on CP7 worldwide.
>We will clarify no later than Monday as to which relate to CP4 drivetrain damage and which do not, i.e. which of them may have a "start-up problem".
> < File: HD-Pumpe niO (Stk ppm)december.xls >>
>As priority 1, I see the review of the inlet conditions in IN, then we repeat the analysis in [redacted] on cold and hot test.

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EA11003EN-00197[1]

>Could you please check for the last 10 cases in the list, whether there were any errors or rework, except the repair on the CP4?
>Was the inlet regulation (verifiable) met?
>
>[redacted] Can you and through your partners from the Planning help me to determine the first starting times?
>
>[redacted] please send the current "inlet regulation" for the vehicle line to those in the distribution list once again, is the "1 minute pre-filling time" still valid at your place? (Wherein, other plants do not have any problem with it).
>Our specification for V6 TDI is "filling time of 4 minutes!"
> == > The goal is to also increase R4-CR without incurring any costs, if no inlet faults are are detectable.>
>

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>
>With best regards
>
>[redacted]
>
>AUDI AG
>[redacted]
>85045 Ingolstadt
>[redacted]
>
==========
>
-----Original message-----
From: [redacted]
>Sent: Friday, December 12, 2008, 10:56 AM
>[redacted]
>
>Subject: New HPP failure
>
> Dear Sir,
>
>Yesterday, another HPP failed in [redacted]
>
>CAH 021414
>QTS: IN: 3233204, AHM: 3233344
>
>Kind regards,
>
>[redacted]
>
>
>
>
>AUDI HUNGARIA MOTOR Kft.
>9027 Gyor, Kardán u. 1.
>[redacted]
>

EA11003EN-00197[2]

>[redacted]
>
>
>
>-----Original Message-----
>From: [redacted]
>Sent: Friday, December 12, 2008 10:42 AM
>[redacted]
>
>Subject: Old HP fuel pump not OK (piece ppm) December
>
>[redacted]
>
>Please find attached the updated table for HP pump CP7.
>
>Üdv
>
>[redacted]

VOLKSWAGEN

Instructions for the initial filling / venting of the fuel low-pressure system of vehicles of VOLKSWAGEN AG with 4-cyl. Common Rail TDI engines and Bosch high-pressure fuel pumps CP4.1 without mechanical presupply pumps

Instructions for production process:

In the production process of vehicles with common rail TDI engines, it is essential in relation to a high-pressure fuel pump CP4.1 from BOSCH, to guarantee first filling of the low-pressure fuel system BEFORE the first start-up of the engine at the end of line.

A corresponding initial filling procedure is to be implemented in the process. Otherwise, failure of the high-pressure injection system still in the factory or at the customer must be reckoned with.

Technical explanation:

The Common Rail-High-pressure fuel pump (CR HPP) is tribologically active in the drivetrain compartment due to the lubricity of diesel fuel. If this HPP runs without lubrication, irreversible damage to the HPP can be expected.

Therefore, the two Electric Fuel Pumps (EFP) in the vehicle, one in the tank and the other in the front right of the vehicle, must be operated for at least 60 s before starting the engine.

An initial filling procedure for this can be triggered, e.g. by a VAS device or DIAGRA notebook. These EFPs then pump the lubricating fuel through the lines and fill the HPP. The HPFP houses an overflow valve, via which excess fuel is returned to the tank, even if the engine is not running. Thus, prolonged operation of the EFPs over the minimum requirement of 60 seconds is not detrimental to the total system.

Through this process, the entire low-pressure fuel system in the vehicle is vented and filled with fuel in about 60 seconds. The HPP is lubricated sufficiently soon after engine start.

The initial start-up of the engine is thus reduced significantly by around 45s to max. 4 s or less.

Instructions for customer services (all brands):

Venting the fuel system even after replacement of the HPP and all components that are located in the low-pressure fuel system upstream to the HPP is necessary. (e.g. fuel filter, fuel lines)

When replacing components that are upstream to the HPP, one-time activation of EFPs for at least 60 s is necessary.

When replacing the HPP, the EFPs must be activated for about 180 s (execute functionseveral times accordingly).

Non-responsive content removed

Volkswagen AG

Non-responsive content re moved

D-38436 Wolfsburg,

Non-responsive conten t removed

EA11003EN-00202[0]

From: Non-responsive content removed
To:
CC:

Date: 1/22/2009, 10:34:00 AM
Subject: First start times on assembly lines B8 R4-CR
Attachments: Auswertung Erststartzeiten [redacted] xls

Hi all,

Non-responsive content removed read out the first start times for B8 2.0 liters in [redacted] for about 60,000 vehicles and zoomed out per assembly line for 1 week each (unfortunately, no first start time for Neckarsulm).
I have sorted the data according to HPP (x-axis changed in the graphics as a result).

If these start times actually remain as such up to 6 minutes (and are not measurement errors), then it is a major problem for the high-pressure pump (even though the drivetrain compartment is filled with fuel) and it is unacceptable! The pump requires rail pressure very early, so that the roller does not slip on the drive cam, but rolls.
That is, it is mandatory that we restrict the start times!

SECTION CONFIDENTIAL

How and to what value should be clarified by SET Test Engineering in cooperation with the plants.
In my opinion, we need to implement and perform such evaluations for all vehicle plants and vehicle types regularly!

Non-responsive content removed, please handle the issue on Tuesday at SET in SZ: I will check with my boss if I can participate.

Non-responsive content removed, please inquire about the first start-up times (at least 1 week each) of V6, V8, V12 from all plants, thanks.

>With best regards
>

Non-responsive content removed

AUDI AG
Non-responsive content removed
85045 Ingolstadt
Non-responsive content removed

EA11003EN-00210[0]

From: Non-responsive content removed
To:
CC:

Date: 3/5/2009, 4:37:00 PM
Subject: Extra refueling of diesel vehicles in critical markets

>Hello Non-responsive content removed
>
In the markets of Non-responsive content removed we have failure rates are around 26-221-fold higher than the values in Non-responsive content removed
Since all markets (except USA) get the same pump, the cause of the failure may be only the fuel; for example, it was also known from [redacted] that the first filling took place on site at the port at a private gas station.
To ensure an optimal inlet of the frictional surfaces of the CR components in these critical markets, they should be factory-filled with "good lubricating Nato diesel".

Among the issues mentioned in several emails:

>* Suggestion for the fuel-critical markets was max. fueling on the line from the beginning (in this case, the max. 16 liters from IN was communicated); for A6 and Q7 it is 30 l; this was not definitely known at the time of applying with the steering committee.
>* [redacted] was always classified from the beginning among the "critical" markets due to the excessive failures (e.g. for Q7: 5%!); Non-responsive content removed has apparently not received this information.
>* [redacted] has also developed to a "fuel-critical" market in the weeks following the approval (late and incomplete reporting) and was therefore decided internally and subsequently at OMK level.
>* We now believe that we can omit extra fueling by the end of 2009.
>

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>
>With best regards
>
>Non-responsive content removed
>
>
>AUDI AG
>[redacted]
>85045 Ingolstadt
>Non-responsive content removed
>
>
>
>_____
>From: Non-responsive content removed
>Sent: Tuesday, March 03, 2009, 7:41 PM
>To: Non-responsive content removed

EA11003EN-00210[1]

>Cc: Non-responsive content removed
>Subject: Subject: Extra refueling in diesel vehicles
>
>Dear colleagues,
>
>Please formulate your opinion in this matter!
>
>Regards
>
>Non-responsive content removed
>
>
>AUDI AG
>
>85045 Ingolstadt
>Non-responsive content removed
>
>
>http://www.audi.com
>
>
>Domicile: Ingolstadt
>Court of Registry: Local District Court Ingolstadt
>Commercial Register No.: 1
>Chairman of the Supervisory Board: Martin Winterkorn
>Board of Management: Rupert Stadler (Vorsitzender/Chairman), Ulf Berkenhagen, Michael Dick, Frank Dreves, Peter Schwarzenbauer, Axel Strotbek, Werner Widuckel
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>
>
>_____
>From: Non-responsive content removed
>Sent: Tuesday, March 03, 2009, 6:23 PM
>To: Non-responsive content removed
>Subject: Subject: Extra refueling in diesel vehicles
>
>
>
>Best regards
>
>Non-responsive content removed
>
>AUDI AG
>
>85045 Ingolstadt
>Non-responsive content removed
>
>
>http://www.audi.com
>

EA11003EN-00210[2]

>Domicile: Ingolstadt
>Court of Registry: Local District Court Ingolstadt
>Commercial Register No.: 1
>Chairman of the Supervisory Board: Martin Winterkorn
>Board of Management: Rupert Stadler (Vorsitzender/Chairman), Ulf Berkenhagen, Michael Dick, Frank Dreves, Peter Schwarzenbauer, Axel Strotbek, Werner Widuckel
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>
>
>_____
>From: Non-responsive content removed
>Sent: Tuesday, March 03, 2009, 5:22 PM
Non-responsive content removed
>Subject: Re: Extra refueling in diesel vehicles
>
>Hello Non-responsive content removed
>
>Forced refueling of TDi vehicles was not the case in [redacted] until now. There were no problems with the fuel until now. In general, we do are not aware of any problems for diesel vehicles from the market. That's why it is surprising that forced refueling should be performed for three-quarters of a year all of a sudden!
>
>Can you please give us more information about the background and necessity of this action?
>
>
>As a precaution, we have blocked all TDIs from shipping until the issue is clarified.
>
>Thanks in advance
>
>
>Non-responsive content removed
>
>
>Audi AG
>Non-responsive content removed
>
>85045 Ingolstadt
>Germany
>Non-responsive content removed
>
>
>Domicile: Ingolstadt
>Court of Registry: Local District Court Ingolstadt
>Commercial Register No.: 1
>Chairman of the Supervisory Board: Martin Winterkorn
>Board of Management: Rupert Stadler (Vorsitzender/Chairman), Ulf Berkenhagen, Michael

Dick, Frank Dreves, Peter Schwarzenbauer, Axel Strotbek, Werner Widuckel
>
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>
>
>_____
From: Non-responsive content removed
>Sent: Tuesday, March 03, 2009, 4:51 PM
Non-responsive content removed
>Subject: Extra refueling in diesel vehicles
>
>Dear colleagues,
>
>We have decided for an extra refueling of 16 liters in the LT units for the markets of Non-responsive content removed and [redacted]
>
>In the meantime, the contents have changed without consultation with us as follows:
>
>* Extra refueling for A6 and Audi Q7 increased to 30 liters
>* [redacted] has also been included
>
>I request you for a short-term statement on whether extra refueling can be specified at 16 liters in general and whether the measure - as defined -
>will expire in December 2009.
>
>Thanks for your support.

SECTION CONFIDENTIAL

>
>With best regards
>
>Non-responsive content removed
>
>
>AUDI AG
>[redacted]
>85045 Ingolstadt
>Non-responsive content removed
>ed
>www.audi.com
>Domicile: Ingolstadt
>Court of Registry: Local District Court Ingolstadt
>Commercial Register No.: 1
>Chairman of the Supervisory Board: Martin Winterkorn
>Board of Management: Rupert Stadler (Vorsitzender/Chairman), Ulf Berkenhagen, Michael
Dick, Frank Dreves, Peter Schwarzenbauer, Axel Strotbek, Werner Widuckel
>
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>

EA11003EN-00211[0]

From: Non-responsive content removed
To:
CC:
Date: 8/9/2010, 2:53:36 PM
Subject: Subject: First start-up of CR-Diesel in [redacted]

Hello Non-responsive content removed

here are the data for Non-responsive content removed and [redacted]

[redacted]

1.) Fuel pre-filling of V6 TDI via EFP? about 240 s (do not build any GEN2 currently)

2.) Engine-Re-Start? about 7 – 11 sec.

3.) How long will the engine run in IN B8 after first start-up before being stopped? at least 30 s

4.) Motor-Re-Start? about 2 – 5 sec.

5.) During 3rd engine start, the start time: < 2 sec.

and Non-responsive content removed see below ....

Best regards

Non-responsive content removed

AUDI AG
[redacted]
85045 Ingolstadt

Non-responsive content removed
www.audi.com

EA11003EN-00211[1]

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

>_____
>From: Non-responsive content removed
>Sent: Monday, August 09, 2010, 2:20 PM
>To: Non-responsive content removed
>Subject: Subject: First start-up of CR-Diesel in [redacted]
>
>Hello [redacted]
>
>Here are the measured values for the plant in Non-responsive content removed (C6PA/B8-V6 diesel):
>
1.) Fuel pre-filling V6 TDI via EFP? 2.7 l and 3 l TDI GEN1 about 120 s / 3 l TDI GEN2 currently 240sec.
>
2.) Engine-Re-Start? about 5 – 10 sec.
>
3.) How long will the engine run in Non-responsive content removed during A6 / B8 after first start-up before being stopped? about 3-9 sec.
>
4.) Engine -Re-Start? about 3 – 7 sec.
>
5.) During 3rd engine start, the start time: < 2 sec.
>
>
>Regards
>Non-responsive content removed
>
>
>With best regards
>
>Non-responsive content removed
>
>
>
>
>
>AUDI AG
>Non-responsive content removed
>Postfach 1144
>74148 Neckarsulm
>Non-responsive content removed
>
>
>
>http://www.audi.com
>_____
>From: Non-responsive content removed

EA11003EN-00211[2]

>Sent: Friday, August 06, 2010, 2:38 PM
>To: Non-responsive content removed
>Cc:
>Subject: First start-up of CR-Diesel in [redacted]
>
>
>Hello gentlemen, >After 5 HPFP drivetrain damage cases have occurred shortly after the first drive in [redacted] over the past 2-3 weeks, we are reviewing the processes, as discussed with you and implemented earlier.
>This raises the question now of how long the engine continues to run idle after the first start-up?
>[redacted] now has start times of 9-10 s; therefore, it is currently OK, but the engine is immediately stopped within 1-2 seconds after that and then have about 3-4 s during restart.
>
>How long does the engine run in IN during B8 / A3 and how long in the Non-responsive content removed during A6 / B8 after first start-up before being stopped?
>
>Please reply by Tuesday morning, as we have a teleconference with [redacted] at 10 am.
>You can also take part in it, I will send you the invitation separately.
>
>Thank you.
>
>Best regards
>
>Non-responsive content removed
>
>
>
>AUDI AG
>Non-responsive content removed
>85045 Ingolstadt
>Non-responsive content removed
>
>
>
>As written.
>
>Best wishes,
>[redacted]
>
>-----Original schedule-----
From: Non-responsive content removed
>Sent: Friday, August 06, 2010, 1:17 PM
Non-responsive content removed
>Subject: 2.7l TDI HPFP damage
>Time: Tuesday, 21 September 2010 10:30 AM-11:00 (GMT+01:00) Non-responsive content removed
Non-responsive content removed
>Location: Teleconference - we will call ([redacted] Office of Non-responsive content removed)
>Importance: High
>

EA11003EN-00211[3]

>
>Status: 20100805
>
Hello colleagues,
>
>As discussed during the teleconference today, I also use the invitation for recording the main points.
>
>General information:
>- Currently there are five failures reported in FAW VW in [redacted] 3x case of damage and 2x for loading
>
> - On-field failures are to be clarified == > [redacted]
>20100805:
>22 on-field HPFP-related cases (Information: [redacted]). Further details about damage patterns are not known as of now.
>- How many C6 have been constructed with 2.7 TDI I == > [redacted]
>20100805:
>4042 vehicles since 2009-08
>
>Plant [redacted]
>-Today (08.02.), 2 vehicles are built under monitoring and the corresponding times determined according to the similar checklist (EFP operations before start, first start-up times) == > [redacted]
>20100805: Results are shown in the table below.
>External energization is not performed.
>EFP activation takes place automatically in 3 blocks
>
>- After the first start-up, the vehicles are stopped immediately. The restart duration is then about 4 seconds.
> == > Clarification with [redacted] and [redacted] with respect to the local procedure = = > [redacted]
[redacted]
>-Vehicles should run longer after the first start-up in order to achieve the second start in < 1s == > Mr Ackermann
>
>- Documentation of the first start-u time should be introduced in the short term.
> = = > Immediate start via entry in the vehicle test card and follow-up via control chart == >> automation is under review == > [redacted]
>automation is under review == > [redacted]
>
>An active pre-filling time of the fuel system through operation of the
>electric fuel pump (EFP), for at least 4 min. No operation of the electric fuel pump (EFP) before
>first fueling in order to avoid the pump from running dry. No EFP operation allowed before completion of wet calibration of fuel tank so as to avoid
>falsification. First engine start at maximum engine speed, support of the vehicle battery
>by external energization.
>First start-up time
>02.08.2010 LFV5A44F3A3[redacted] about 3-4 min. no information - no information - information only during EE functional test about 9 - 10 s
>
>
>02.08.2010 LFV5A44F9A3[redacted] about 3-4 min. no information - no information - about 9 - 10 s
>
>- 13 more bodies are built and should be partly followed up in the further development and launch during the on-site visit A WK 32
>20100805:
>6 bodies shall be controlled on Monday WK 32 > others on Tuesday WK 32

EA11003EN-00211[4]

>- Before more or less 6 months, a review of the first start-up times was done in [redacted]. Then, it was shortened from about 20 s to 9 s
>- What measures were implemented (protocol) == > [redacted]
>20100805:
>There is no protocol for the measures implemented
>
>- To prevent wrong fueling, fuel sample should be taken from one of the defective vehicles and analyzed == > Mr. Ackerman
>Note: Sampling shall be done via the outlet of the EFP due to possible determination of water content. 20100805)
>- Analyses were not done yet. Clarify WK 32 analysis with Bosch == > [redacted]
>
The inlet fuel in Changchun does not meet the group specification regarding lubricity / includes highly volatile elements / water content is not limited.
>A medium-term migration is recommended == > [redacted], in consultation with [redacted]
[redacted]
>
>- The 5 vehicles, in which the pump failed, were built within 1 or 2 days, according to my knowledge.
>Questions about this:
>* How many vehicles were built during the period in question?
>* Have these vehicles been delivered?
>* Is it possible to exchange the pumps on two vehicles during this period and check for preliminary damage?
>We were able to block a total of 42 vehicles internally.
>Out of these, we have already dismantled the HFPF from a normal vehicle and brought it to the laboratory, to analyze it in the same way as the not OK HPFP.
>Results should be available on Thursday
>20100805:
>- According to the laboratory, visual abnormalities are recognizable. Analysis report is created.
> == > All abnormal pumps are to be analyzed by Bosch == > [redacted]
>- Perform field observation of vehicles == > [redacted]
>
>
>
>AHM:
>- In the AHM process, no distinction is made between engines for [redacted] and [redacted].
>
>- From the five defective engines, the date of manufacture is to be determined == > [redacted]
>Engine number Date of manufacture Date of delivery
>CAN 030229 21.04.2010 22.04.2010
>CAN 030134 16.04.2010 22.04.2010
>CAN 029092 31.03.2010 02.04.2010
>CAN 029756 31.03.2010 02.04.2010
>CAN 028896 31.03.2010 02.04.2010
>
>20100805:
>Clarify which engine was in the hot test and according to which inlet regulation it is proceeded == > [redacted]
>
>- Transportation of the engines ([redacted]
>- Any changes in the process over the past 6 months should be determined == > [redacted]
>20100805: No changes were made
>- Transport time [redacted] is to be determined == > [redacted]

EA11003EN-00211[5]

20100805) Transport time is 5-6 weeks (4-5 weeks by [redacted] 1 week by [redacted])

>

20100805)

>- Alternately, 20 pumps to be sent via CKD == > [redacted]

>

>Regards

>

> [redacted]

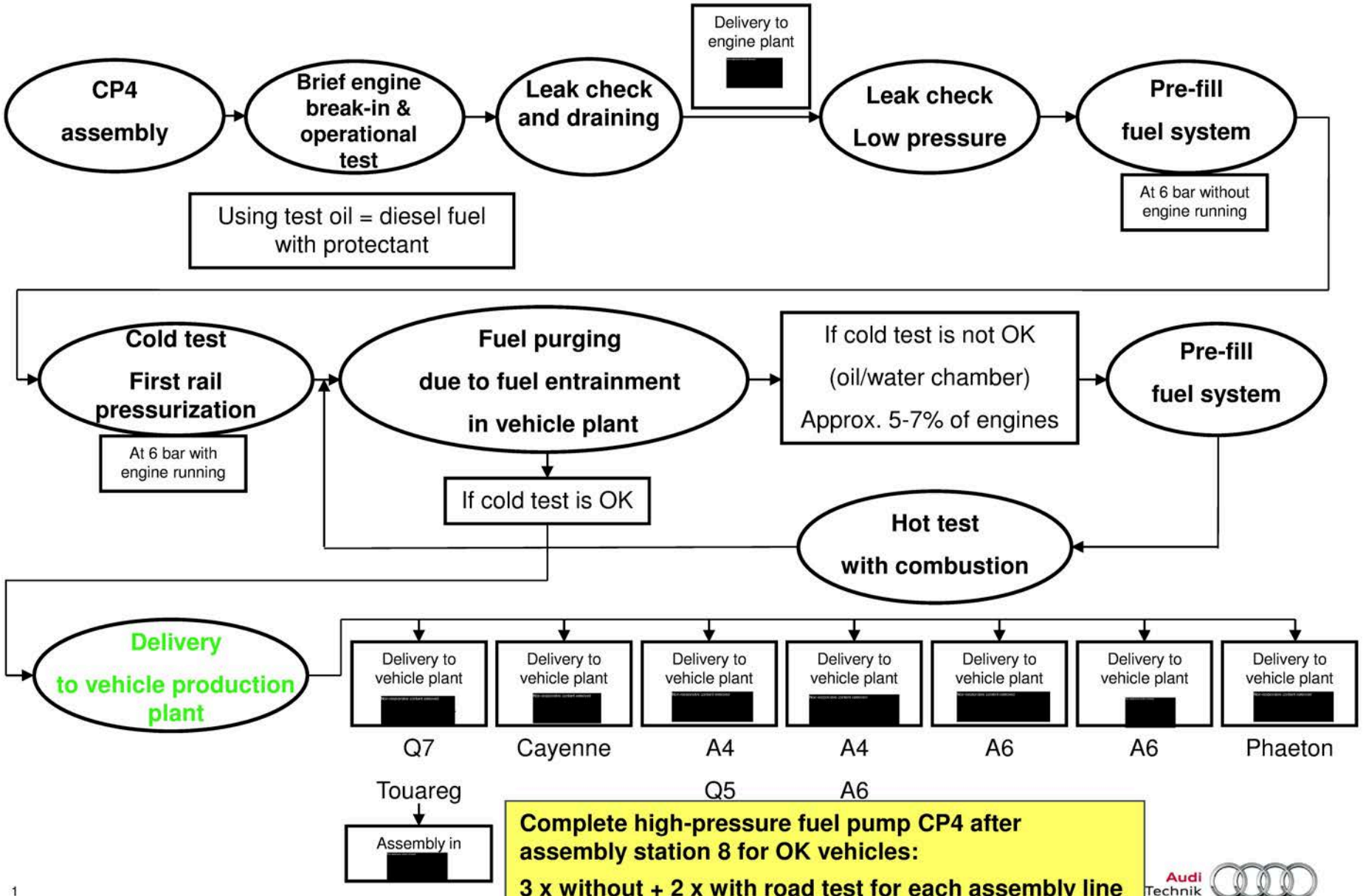
>

>

>

EA11003EN-00217[0]

Manufacturing Process - CP4 to Vehicle Production Plant



Complete high-pressure fuel pump CP4 after assembly station 8 for OK vehicles:

3 x without + 2 x with road test for each assembly line

Audi Technik

VOLKSWAGEN

Instructions for the initial filling / venting of the fuel low-pressure system of vehicles of VOLKSWAGEN AG with 4-cyl. Common Rail TDI engines and Bosch high-pressure fuel pumps CP4.1 without mechanical presupply pumps

Instructions for production process:

In the production process of vehicles with common rail TDI engines, it is essential in relation to a high-pressure fuel pump CP4.1 (4-cylinder HPFP (1 piston)) from BOSCH, to guarantee first filling of the low-pressure fuel system BEFORE the first start-up of the engine at the end of line.

A corresponding initial filling procedure is to be implemented in the process. Otherwise, failure of the high-pressure injection system still in the factory or at the customer must be reckoned with.

Technical explanation:

The Common Rail high-pressure fuel pump (Common-Rail-HPFP) is tribologically active in the drivetrain compartment due to the lubricity of diesel fuel. If this HPFP runs without lubrication, irreversible damage to the HPFP can be expected.

Therefore, the two Electric Fuel Pumps (EFP) in the vehicle, one in the tank and the other in the front right of the vehicle, must be operated for at least 60 s before starting the engine.

An initial filling procedure for this can be triggered, e,g, by a VAS device or DIAGRA notebook. These EFPs then pump the lubricating fuel through the lines and fill the HPFP. The HPFP houses an overflow valve, via which excess fuel is returned to the tank, even if the engine is not running. Thus, prolonged operation of the EFPs over the minimum requirement of 60 seconds is not detrimental to the total system.

Through this process, the entire low-pressure fuel system in the vehicle is vented and filled with fuel in about 60 seconds. The HPFP is lubricated sufficiently soon after engine start.

The initial start-up of the engine is thus reduced significantly by around 45s to max. 4 s or less.

Instructions for customer services (all brands):

Venting the fuel system even after replacement of the HPFP and all components that are located in the low-pressure fuel system upstream to the HPFP is necessary. (e.g. fuel filter, fuel lines)

When replacing components that are upstream to the HPFP, one-time activation of EFPs for at least 60 s is necessary.

When replacing the HPFP, the EFPs must be activated for about 180 s (execute functionseveral times accordingly).

Non-responsive content removed

Volkswagen AG

Non-responsive content r emoved

D-38436 Wolfsburg,

Non-responsive cont ent removed

EA11003EN-00238[0]

From: Non-responsive content removed
To:
CC:
Date: 9/5/2008, 2:58:00 PM
Subject: FW: Status report: CP4 failures with activity plan
Attachments: EHC_0371 Non-responsive content removed Audi, CP4 Übersicht Akltivitäten gegen Triebwerksschäden,

Hello Mr. Non-responsive content removed

Could you please send me the complete file; Mr. Non-responsive content removed didn't send me page 1.
Or hasn't it been updated yet?

Best regards

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AUDI AG
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http://www.audi.com

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

From: Non-responsive content removed
Sent: Thursday, September 04, 2008, 7:22 PM
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Subject: Re: Status report: CP4 failures with activity plan

Good evening Mr [redacted]

supplemented item (?) on overhead page 1.

As well as the questions asked during the technical meeting - of course, I added them to the

open points list as well.

Best regards / mit freundlichen Grüßen

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From: Non-responsive content removed
Sent: Thursday, September 04, 2008, 1:43 PM
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Subject: Re: Status report: CP4 failures with activity plan
Importance: High

Hello Mr. Non-responsive content removed hello Mr. Non-responsive content removed

One important item missing from your/our action plan is the investigation of the very large differences between the failure rates of the 2-stampers (Audi V6) vs. the 1-stampers (VW, BMW R4). Please add this by noon tomorrow.
Thank you.

Best regards

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From: Non-responsive content removed
Sent: Monday, September 01, 2008, 7:19 PM
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Subject: Re: Status report: CP4 failures with activity plan

Gentlemen,

EA11003EN-00238[2]

I have attached the overview of development and production activities promised for today on the subject of "Reduction of CP4 drivetrain damage at Audi".

The items were presented at the last CP4 technical pump meeting, on 08/27/2008 in NSU.

Best regards / mit freundlichen Grüßen

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Robert Bosch GmbH
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GERMANY
www.bosch.com

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Headquarters: Stuttgart, Court of Registry: Local District Court Stuttgart Commercial Register no. 14000
Chairman of the Supervisory Board: Hermann Scholl; Management Board: 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
Sent: Monday, September 01, 2008, 6:50 PM
Non-responsive content removed
Subject: Status report: CP4 failures with activity plan

Gentlemen,

I had hoped to distribute the activity plan that was agreed upon on Wednesday at the CP4 technical pump meeting at [redacted] but Bosch has not yet met the promised deadline. Mr [redacted] please send it to this distribution list tomorrow, as I won't be back in the office until Thursday.

News on the failure situation.

Fault: drivetrain damage in the CP4 high-pressure fuel pump
Causes : production-based manufacturing fault from Bosch or market-specific unknown fault cause (see country quotas in section 2 of the attachment)
80 failures in the vehicle after delivery (75 x field; 5 x Q assurance / testing)
38 pumps received for analysis (31 x V6; 7 x R4-TDI)
reported: 45 x Q7 / Touareg 3.0l; 28 x 2.7l; 11 x 2.0l

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Yours sincerely,

SECTION CONFIDENTIAL

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AUDI AG
[redacted]

EA11003EN-00238[3]