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OFFICE OF DEFECTS
INVESTIGATION

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March 11, 2004

Thomas Cooper, Chief
Vehicle Integrity Division, ODI
U. S. Department of Transportation
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

Subject: NVS-212cag, EA03-025: "Audi A6 Passenger Compartment Fire"

Dear Mr. Cooper,

This responds to your letter dated January 15, 2004, concerning allegations received by your agency of driver's side passenger compartment fire in Model Year 1999-2000 Audi A6 vehicles.

For your convenience, each request is repeated verbally and followed by our response.

Please contact me if you have any questions or request any further information.

Sincerely,

John Maddox
Product Compliance Officer
Volkswagen of America, Inc.

Encl.: EA03-025 Data Collection Disc (CD-ROM)

Question 1

State, by model and model year, the number of subject vehicles VW has manufactured for sale or lease in the United States that were not previously provided to ODI in its response to ODI's PEIR letter for PE03-035. Separately, for each subject vehicle manufactured to date by VW, state the following:

- a. Vehicle Identification number (VIN);
- b. Model;
- c. Model Year (MY);
- d. Date of manufacture;
- e. Date warranty coverage commenced; and
- f. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

Response 1

There are no additional subject vehicles that were not previously provided to ODI in VW's response to the PEIR. The following information was provided in response 1 to the PEIR and is repeated below for your convenience.

Model	Model Year	Sales
A8 and A8 Avant	1999	24,803
	2000	26,288
	Total	51,091

Source: BO Business Objects Vehicle Universe
Gathered: August 11, 2003

Our responses to subparagraphs a. through f. are provided in a Microsoft Excel data file entitled "01_Production-Data_(EA03-025).xls", on the enclosed EA03-025 data collection disc.

Question 2

State the number of each of the following, received by VW, or of which VW is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:

- a. Consumer complaints, including those from fleet operators;
- b. Field reports, including dealer field reports;
- c. Reports involving a crash, injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;
- d. Reports involving a fire, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;
- e. Property damage claims;
- f. Third-party arbitration proceedings where VW is or was a party to the arbitration; and
- g. Lawsuits, both pending and closed, in which VW is or was a defendant or codefendant.

For subparts "a" through "d," state the total number of each item (e.g., consumer complaints, field reports, etc.) separately. Multiple incidents involving the same vehicle are to be counted

separately. Multiple reports of the same incident are also to be counted separately (i.e., a consumer complaint and a field report involving the same incident in which a crash occurred are to be counted as a crash report, a field report and a consumer complaint).

In addition, for items "c" through "g," provide a summary description of the alleged problem and causal and contributing factors and VW's assessment of the problem, with a summary of the significant underlying facts and evidence. For items "f" and "g," identify the parties to the action, as well as the caption, court, docket number, and date on which the complaint or other document initiating the action was filed.

Response 2

- a. In response to the PEIR and to this inquiry, VW has identified a total of 36 consumer complaints, involving 31 vehicles, that are related to the alleged defect. (Please refer to table "Cases_Overview_(EA03-025).pdf", on the enclosed EA03-025 data collection disc.)
- b. In response to the PEIR and to this inquiry, VW has identified a total of 23 field reports, involving 22 vehicles. Twenty-two of these reports relate to the 38 consumer complaints identified above. One field report refers to an additional vehicle. (Please refer to table "Cases_Overview_(EA03-025).pdf", on the enclosed EA03-025 data collection disc.)
- c. In response to the PEIR and to this inquiry, VW has not identified any reports involving a crash, injury, or fatality, based on claims (including property damage claims, consumer complaints, or field reports) or notices against the manufacturer that are related to the alleged defect.
- d. In response to the PEIR and to this inquiry, VW has identified a total of 32 vehicles that have reports involving a fire, based on NHTSA's definition of fire in 49 CFR 575.4, that are related to the alleged defect, based on consumer complaints and field reports. None of these involve death or injury. VW did not identify any additional unique reports of fire from claims against the manufacturer, notices received by the manufacturer, or property damage claims. (Please refer to table "Cases_Overview_(EA03-025).pdf", on the enclosed EA03-025 data collection disc.)
- e. In response to the PEIR and to this inquiry, VW has identified a total of 1 property damage claim related to the alleged defect. This claim vehicle is included in the 31 vehicles with consumer complaints mentioned under a. above.
- f. In response to the PEIR and to this inquiry, VW has not identified any cases of third-party arbitration proceedings that are related to the alleged defect.
- g. In response to the PEIR and to this inquiry, VW has not identified any lawsuits, either pending or closed, that are related to the alleged defect and in which VW is a defendant or codefendant.

Source, Data Gathered:

- a) CR Liston Database, March 5, 2004
- b) TACS System, January 26, 2004; Product Liaison, February 27, 2004
- c-g) Product Liaison, February 27, 2004

Question 3

Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information:

- a. VW's file number or other identifier used;
- b. The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);
- c. Vehicle owner or fleet name (and fleet contact person), address, and telephone number;
- d. VIN;
- e. Model and model year;
- f. Vehicle mileage at time of incident;
- g. Incident date;
- h. Report or claim date;
- i. Whether a crash is alleged;
- j. Whether a fire is alleged;
- k. Whether property damage is alleged;
- l. Number of alleged injuries, if any, and
- m. Number of alleged fatalities, if any.

Response 3

Our responses to subparagraphs a. through m. are provided in a Microsoft Excel file entitled "03_Complaint-Data_(EA03-025).xls", on the enclosed EA03-025 data collection disc.

Question 4

Produce copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method VW used for organizing the documents.

Response 4

In response to the PEIR and to this inquiry, VW has identified 73 sets of documents, related to 32 unique vehicles: 38 documents are related to Consumer Complaints, 33 documents are related to Field Reports, and 2 documents are related to Other Claims. The documents are organized according to table "Cases_Overview_(EA03-025).pdf", and are provided under the folders "Question-No-04...", on the enclosed EA03-025 data collection disc.

Question 5

State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by VW to date that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.

Separately, for each such claim, state the following information:

- a. VW's claim number;
- b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
- c. VIN;
- d. Repair date;
- e. Vehicle mileage at time of repair;
- f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
- g. Labor operation number;
- h. Problem code;
- i. Replacement part number(s) and description(s);
- j. Concern or statements stated by customer; and
- k. Comment, if any, by dealer/technician relating to claim and/or repair.

Response 5

In response to the PEIR and to this inquiry, VW has identified a total of 20 warranty claims, including 5 buybacks, involving 20 subject vehicles, relating to the alleged defect. 14 of these 20 VINs are duplicative of consumer complaints reported in response to Question 2; 6 VINs refer to other vehicles.

Of these 20 warranty claims, a total of 6 claims are related to Model Year 1999 A6 vehicles, and a total of 14 claims are related to Model Year 2000 A6 vehicles.

Our responses to subparagraphs a. through k. are provided in a Microsoft Excel file entitled "05_Warranty-Data_(EA03-025).xls", on the enclosed EA03-025 data collection disc.

Question 6

In VW's response to Request No. 6 of the PEIR letter, VW identified "4 buybacks in its review of field reports." For each buyback, including any buybacks since VW's response dated September 19, 2003, describe in detail:

- a. VIN;
- b. Model Year;
- c. Vehicle owner or fleet name (and fleet contact person);
- d. Owner's address;
- e. Owner's telephone number (include area code);
- f. Vehicle mileage at time of repair;
- g. Repairing dealer's or facility's name;
- h. Repairing dealer's address;
- i. Repairing dealer's telephone number (include area code);
- j. Status of vehicle (repaired, totaled, etc);
- k. Current location of the vehicle;
- l. Brief summary of dealer/technician findings and/or conclusions;
- m. Name of the VW employee who authorized the buyback;
- n. Identify any non-dealer report, assessment, analysis, study, test, evaluation or investigation performed by, or on behalf of, any VW employee or representative on the buyback;
- o. Date of the buyback;
- p. State the rationale for the buyback;
- q. Describe the actions taken by VW with the buyback vehicle, i.e. what did VW do with/to the buyback vehicle; and
- r. Discuss any follow up or "other actions" taken with the buybacks.

Response 6

In response to the PEIR and to this inquiry, VW has identified a total of 5 buybacks. All 5 vehicles refer to vehicles that were reported in response to question 2.

Our responses to subparagraphs a. through r. are provided in a Microsoft Excel file entitled "06_Buyback_Data_(EA03-025).xls", on the enclosed EA03-025 data collection disc.

Question 7

Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that VW has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This request includes, but is not limited to, bulletins, advisories, informational documents, training documents, or other documents or communications, with the exception of standard shop manuals. Also include the latest draft copy of any communication that VW is planning to issue within the next 120 days.

Response 7

In response to the PEIR and to this inquiry, VW has not identified any documents that relate or may relate to the alleged defect in the subject vehicles, that VW has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. VW does not yet have any documents it is planning to issue within the next 120 days.

Question 8

In VW's response to Request No. 8 of the PEIR letter, data are provided in a file entitled "08_Analyses_(PE03-035).xls." That file includes folders entitled "table for answer 4(1)" and "table for answer 4(2)." Explain in detail the relevance of these folders to Request No. 8 of the PEIR letter and describe what the tables represent.

Response 8

Request No. 8 of the PEIR asked VW to provide all documents related to any action regarding vehicles with the alleged defect that VW has conducted. The intent of these tables was to summarize the raw data in one single file to aid VW in preparing its response to Request No. 4 of the PEIR.

Question 9

Request No. 8 of the PEIR letter requested information regarding "assessments, tests and/or evaluations" conducted or being conducted by VW that relate to, or may relate to, the alleged defect in the subject vehicles. VW's reply on September 18, 2003, does not provide all the requested information. Provide a clear and detailed response to the following request.

Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are

planned, or are being planned by, or for, VW. This response shall include but not be limited to analysis, testing etc. of all vehicle buybacks and related to the alleged defect. For each such action, provide the following information:

- a. Action title or identifier;
- b. The actual or planned start date;
- c. The actual or expected end date;
- d. A brief summary of the subject, a description of all components, and the objective of the action;
- e. Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and
- f. A brief summary of the findings and/or conclusions resulting from the action. If no common origin has yet been identified, describe in detail all theories and/or assumptions of the cause of the fire. Identify each component VW examined, analyzed, tested and studied to ascertain the cause of the dash fires, and explain in detail the result of each test, analysis, and study performed by VW.

For each action identified, provide copies of all documents related to the action, regardless of whether the documents are in interim, draft, or final form. Organize the documents chronologically by action.

Response 9

In response to question 8 of the PEIR, VW identified the following:

- a. *Action identifier: Preliminary Evaluation of Responsive Data Sources.*
- b. *Start date: August 2003.*
- c. *End date: TBD*
- d. *Objective: Data collection of available information related to the alleged defect in order to determine the reasons for the customer concerns.*
- e. *VWofA and AUDI AG (Technical Development, Quality Assurance).*
- f. *A common origin for the reported fire cases could not be identified.*

At that time, no final origin of the fire cases could be identified.

Since that time, VW has conducted the following actions:

- I a) Analysis for Fire Origin.
- I b) September, 2003.
- I c) March 9, 2004.
- I d) Categorization of 39 cases to assess root cause.
The final categorization was done based on the results from Action II after March 5, 2004.
- I e) AUDI AG Consumer Protection, AUDI AG Product Analysis.
- I f) VW has concluded that an electrical short, due to a physical contact of the left driver's side crash element with the headlight switch wiring harness (including circuits leading to the instrument cluster, temperature sensor, etc.), is the root cause for the vast majority of these cases.
- II a) Mannheim Auction Site Vehicle Investigation.
- II b) February 11, 2004.
- II c) March 5, 2004.
- II d) On February 11, 2004, Audi of America Product Compliance inspected 39 vehicles in the Auction Center in Mannheim, PA, in order to get a broader overview of the

alleged defect. The dashboard area was investigated, and findings were documented.

II e) Audi of America Product Compliance.

II f) Due to this investigation, VW found one confirmed and one potential condition that might contribute to the alleged defect; for details see .pdf files entitled "09_Action-II_Manheim_Report_(EA03-025).pdf" and "09_Action-II_Manheim_Notes_(EA03-025).pdf" on the enclosed EA03-025 data collection disc.

Copies of the related documents are provided in the folder "Question-No-09" on the enclosed EA03-025 data collection disc.

Question 10

Request No. 9 of the PEIR letter requested information regarding "modifications and changes" to all components from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles or the subject components. The response provided in VW's letter dated September 19, 2003, is not clear and does not provide all the requested information. Provide a clear and detailed response to the following request.

Describe all modifications or changes made by, or on behalf of, VW in the design, material composition, manufacture, quality control, supply, or installation of the subject component(s), from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles. This response shall include but not be limited to descriptions of modifications or changes to the headlight switch and/or the headlight switch wiring harness. For each such modification or change, provide the following information:

- a. The date or approximate date on which the modification or change was incorporated into vehicle production;
- b. A detailed description of the modification or change;
- c. The reason(s) for the modification or change;
- d. The part numbers (service and engineering) of the original component;
- e. The part number (service and engineering) of the modified component;
- f. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
- g. When the modified component was made available as a service component; and
- h. Whether the modified component can be interchanged with earlier production components.

Also, provide the above information for any modification or change that VW is aware of which may be incorporated into vehicle production within the next 120 days.

Response 10

According to response 9, VW has concluded that an electrical short, due to a physical contact of the left driver's side crash element with the headlight switch wiring harness (including circuits leading to the instrument cluster, temperature sensor, etc.), is the root cause for the vast majority of the identified incidents.

The part number for the left driver's side crash element is 4B1 880 481; detailed information about the headlight switch wiring harness, for which there is no individual part number due to its modular concept, can be taken from the technical drawings TAB 004 827 QK/QE, which are submitted together with this response.

For the model years 1998 and 2000, there have been no modifications in these parts or in the assembly process related to the alleged defect.

Question 11

Request No. 10 of the PEIR letter requested information regarding "parts and kits sold" from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles. The reply provided in VW's letter dated September 19, 2003, is not clear and does not provide all the requested information. Provide a clear and detailed response to the following request.

State the number of all parts and assemblies related to the alleged defect (including any kits or any subject components that have been released or developed for use in service repairs) that VW has sold for use in the subject vehicles to date by component name, part number (both service and engineering/production), model and model year of the vehicle in which it is used and month/year of sale, including the out-of-date for sales, if applicable. This response shall include but not be limited to sales of the headlight switch and/or the headlight switch wiring harness.

Identify by make, model and model year, any other vehicles of which VW is aware that contain the identical component or kit, whether installed in production or in service, and state the applicable dates of production or service usage.

Response 11

The part number for the left driver's side crash element is 4B1 880 481; the part numbers for the headlight switch wiring harness (spare parts only) are 4B1 971 315 B/C/D; the Part number for the headlight switch is 4B1 941 531 B B98.

The respective parts sales information is provided in a Microsoft Excel file entitled: "11_part_sales_48_months_(EA03-025).xls", on the enclosed EA03-025 Data Collection disc.

These parts are also used in service for 1998 and 2001 through 2004 model year A8 vehicles, i.e., the whole A8 population beginning with Model Year 1998.

VW believes that the sales of these parts are not related to the alleged defect in the subject vehicles.

Question 12

Request No. 11 of the PEIR letter requested a comparison of the MY 1998 through MY 2001 vehicles which relate to, or may relate to, the alleged defect in the subject vehicles. The response provided in VW's letter dated September 19, 2003, is not clear and does not provide a response to the request. Provide a clear and detailed response to the following request.

Compare and contrast the design, manufacturing and production changes in the Audi A8 for the following model years, as they relate to the subject component(s) in the subject vehicles:

MY 1998 to MY 1999; and
MY 2000 to MY 2001

Response 12

For the model years 1998 through 2001 there have been no modifications related to the alleged defect in any of the subject parts or assembly processes mentioned in the response to 10 and 11.

Question 13

Request No. 12 of the PEIR letter requested an "assessment of the alleged defect in the subject vehicle." The response provided in VW's letter dated September 19, 2003, is not clear and does not provide a response to the request. Provide a clear and detailed response to the following request.

Furnish VW's assessment of the alleged defect in the subject vehicles, including:

- a. The causal or contributory factor(s);
- b. The failure mechanism(s);
- c. The failure mode(s);
- d. The effect(s) of the failure on the system components and to mating components/systems;
- e. The risk to motor vehicle safety that it poses;
- f. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged defect was occurring or subject component was malfunctioning;
- g. A description of the analysis process used to assess items "a" through "f," and
- h. The reports included with this inquiry.

Response 13

- a/b. VW has concluded that physical contact of the left driver's side crash element with the headlight switch wiring harness (including circuits leading to the instrument cluster, temperature sensor, etc.) could result in an electrical short.
- d/d. Even though such an electrical short is not very likely, it could result, in a worst-case scenario, in a fire originating in the left dashboard area.
- e. Due to the information obtained in the investigations related to this inquiry, VW cannot exclude the possibility of further similar instances, and thus will submit a "573" Report.
- f. In all of the cases investigated, the occupants had enough warning, either through an odor or the sight of smoke, to exit the vehicle safely.
- g/h. For a. through d., see response 9.
For f., VW thoroughly reviewed consumer complaints, warranty claims, and field reports.

Question 14

List, by make, model, and model year, the vehicles, other than the subject vehicles, that VW sells, offers for sale, assembles or manufactures using any or all of the subject components. State the number of each make and model, and state the number of reports concerning the alleged defect received by VW.

Response 14

As described above in Response 10 and 11, the parts related to the alleged defect are also used in 1998 and 2001 through 2004 model year A6 vehicles. They are not used in any other VW vehicle.

VW is aware of 1 additional report concerning the alleged defect in a model year 1998 A6 vehicle and 2 additional reports concerning the alleged defect in 2 model year 2001 A6 vehicles.

Question 15

Describe the production processes, material compositions, including properties and specifications, used in the construction of the instrument panel, fuse box, air conditioning ducts, and any other components of the final assembly IP in the subject vehicles.

Response 15

According to our findings, and as stated in responses 11 through 14, VW has identified the root cause and remedial action. VW will provide this information upon request.

Question 16

Provide engineering drawings and specifications for final assembly IP's that were or are original equipment or replacement equipment designated by VW for use in the subject vehicles. Also provide engineering drawings and specifications for the sub-components of the IP.

Information in the drawings should include dimensioning and tolerances, all IP and vehicle applications for which the components and sub-assemblies were intended, as well as assembly instructions.

Response 16

A set of technical drawing sheets will be provided under a separate cover, with a request for confidentiality, upon request.

Hardcopy of the .pdf file "Cases_Overview_(EAO3-026).pdf" on the enclosed EAO3-026 Data Collection disc: Overview of "Consumer Complaints", "Field Reports and Other Claims", and "Warranty and Burbank Claims":

* Suboption Chain only.