

## **ODI RESUME**

U.S. Department of Transportation	Investigation:	EA 11-003		
	Prompted by:	PE10-034		
	Date Opened:	02/07/2011		
National Highway	Investigator:	Kerrin Bressant	Reviewer:	Jeff Quandt
Traffic Safety	Approver:	Frank Borris		
Administration	Subject:	High-Pressure Fuel Pump Failure (HPFP)		

## MANUFACTURER & PRODUCT INFORMATION

Manufacturer:	Volkswagen of America, Inc.			
Products:	2009-2010 Volkswagen/Audi JETTA/Golf/A3 TDI Clean Diesel			
Population:	97,272 (Estimated)			
Problem Description:	HPFP failure causes contamination of the fuel system with debris from pump wear, which results in rough engine, loss of power and possible engine stall.			

FAILURE REPORT SUMMARY					
	ODI	Manufacturer	Total		
Complaints:	52	113	160**		
Crashes/Fires:	0	0	0		
Injury Incidents:	0	0	0		
Fatality Incidents:	0	0	0		
Other*:	0	154	154		
*Description of Others UDED warranty along related to the alloged defect					

\*Description of Other: HPFP warranty claims related to the alleged defect.

\*\* Total eliminates duplicates received by ODI and manufacturer.

## **ACTION / SUMMARY INFORMATION**

Action: An Engineering Analysis has been opened.

## Summary:

The Office of Defects Investigation (ODI) and Volkswagen (VW) have received a total of 160 complaints and field reports alleging incidents of engine stall and/or loss of power that appear to be related to high pressure fuel pump (HPFP) failures in certain model year (MY) 2009 through 2010 Volkswagen Jetta and MY 2010 Volkswagen Golf and Audi A3 vehicles equipped with TDI clean diesel engines. Approximately half of the reports indicate that the failure resulted in an engine stall incident, with many of these alleging stall incidents at highway speeds in traffic with no restart.

In response to ODI's information request for PE10-034, VW indicated that it had "found no defect related to motor vehicle safety with relation to the TDI Clean Diesel fuel system at issue in this investigation" and attributed problems with HPFP failure to operation with gasoline contaminated diesel fuel. Volkswagen stated that "even a small amount of gasoline in the diesel fuel may disrupt the necessary lubrication required and may cause the HPFP to fail." In response to concerns that fuel contamination was the major cause of HPFP and related fuel system failures, VW issued a Technical Service Bulletin in May 2010 (VW TB V011011 2023624 and Audi TB A011008 2023360-1), with instructions to inspect the diesel fuel for vehicles requiring fuel system service that have symptoms associated with HPFP failure. The bulletin states that "fuel system damage incurred by use of fuel not complying to ASTM-D-975 Grade 2 S15 (B5 or less biodiesel content) standards will not be covered under warranty."

Volkswagen also provided information about 121 mis-fueling incidents reportedly acknowledged by consumers or dealers and test results for about 50 diesel fuel samples taken from complaint vehicles in late-August through early-October 2010. The mis-fueling incidents include about 20 reports involving incorrect fueling by dealer sales or service personnel and generally report symptoms such as rough running, stalling and/or no start within a few miles of refueling the vehicle with gasoline. Volkswagen indicated that the testing of fuel samples from complaint vehicles found that

nearly 90 percent contained high amounts of gasoline.

Volkswagen implemented design changes for the HPFP in May 2008, September 2009 and November 2010 to improve the robustness of the pump when used with poor quality fuel. ODI analysis of HPFP failures identified from all sources shows failure rates of 0.53% for MY 2009 vehicles and 0.11% for MY 2010 vehicles.

This investigation has been upgraded to an Engineering Analysis to continue to investigate the issues with misfueling and HPFP design identified during the Preliminary Evaluation.

The ODI complaints cited above can be viewed at http://www-odi.nhtsa.dot.gov/owners/SearchNHTSAID? targetCategory=C under the following identification numbers:

10297692, 10315932, 10336472, 10342964, 10345236, 10345832, 10346635, 10354074, 10354174, 10354353, 10354361, 10354434, 10354508, 10354943, 10355930, 10356900, 10357404, 10357955, 10357996, 10358817, 10358847, 10359338, 10359939, 10360745, 10362795, 10363419, 10363806, 10363955, 10364550, 10365805, 10366933, 10367084, 10373155, 10376723, 10378743, 10379146, 10379448, 10379500, 10380120, 10381048, 10382669, 10382949, 10383163, 10383321, 10383516, 10383819, 10383830, 10384051, 10392884, 10400930, 10405634, 10407659.