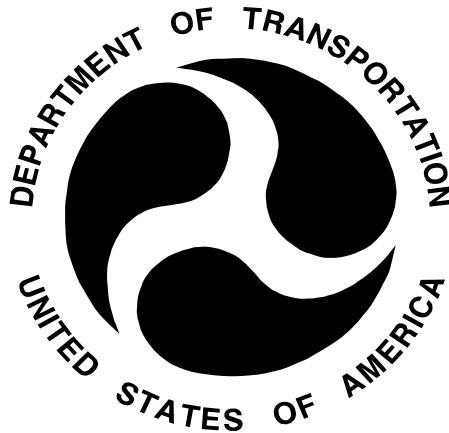


126-TRC-11-004

**SAFETY COMPLIANCE TESTING FOR FMVSS 126
Electronic Stability Control Systems**

Volkswagen De Mexico S.A. De C.V.
2011 Volkswagen Jetta
NHTSA No. CB5802

TRANSPORTATION RESEARCH CENTER INC.
10820 State Route 347
East Liberty, Ohio 43319



June 29, 2011

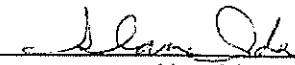
FINAL REPORT

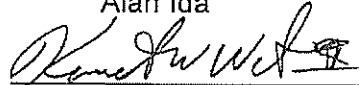
Prepared Under Contract No.: DTNH22-08-D-00097

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Enforcement
Office of Vehicle Safety Compliance
1200 New Jersey Avenue, SE
West Building, 4th Floor (NVS-221)
Washington, DC 20590

Prepared for the Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-08-D-00097.

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Prepared By: 
Alan Ida

Approved By: 
Ken Webster

Approval Date: 5/17/11

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: 

Acceptance Date: 6/29/11

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16. Abstract A test was conducted on a 2011 Volkswagen Jetta, NHTSA No. CB5802, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-126-02 for the determination of FMVSS 126 compliance. Test failures identified were as follows: None			
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1.0 PURPOSE OF COMPLIANCE TEST

The purpose of this test is to determine if the test vehicle, a MY 2011 Volkswagen Jetta meets the minimum equipment and performance requirements stated in Federal Motor Vehicle Safety Standard (FMVSS) 126, "Electronic Stability Control Systems."

This standard establishes performance and equipment requirements for Electronic Stability Control (ESC) Systems installed in passenger cars, multipurpose passenger vehicles, trucks, and buses with a gross vehicle weight rating of 4,536 kilograms or less.

2.0 TEST PROCEDURE AND DISCUSSION OF RESULTS

Testing of the MY 2011 Volkswagen Jetta was conducted at Transportation Research Center Inc. (TRC Inc.) in accordance with NHTSA TP-126-02, dated November 19, 2008.

The vehicle was inspected to ensure it was equipped with an ESC System that:

- Augments vehicle directional stability by applying and adjusting brake torques individually at each wheel to induce a correcting yaw moment to a vehicle;
- Is computer controlled with the computer using a closed-loop algorithm to limit vehicle oversteer and to limit vehicle understeer;
- Has a means to determine the vehicle's yaw rate and to estimate its side slip or side slip derivative with respect to time;
- Has a means to monitor driver steering inputs;
- Has an algorithm to determine the need, and a means to modify engine torque, as necessary, to assist the driver in maintaining control of the vehicle, and
- Is operational over the full speed range of the vehicle (except at vehicle speeds less than 20km/h (12.4mph), when being driven in reverse, or during system initialization).

The vehicle was subjected to a 0.7Hz Sine with Dwell (SWD) Steering Maneuver to ensure that it would meet the stability and responsiveness requirements of the standard as follows:

- At 1.0 second after completion of a required sine with dwell steering input, the yaw rate of the vehicle must not exceed 35 percent of the first peak value of yaw rate recorded after the steering wheel angle changes sign (between first and second peaks during the same test run).
- At 1.75 seconds after completion of a required sine with dwell steering input, the yaw rate of the vehicle must not exceed 20 percent of the first peak value of yaw rate recorded after the steering wheel angle changes sign (between first and second peaks during the same test run).

- The lateral displacement of the vehicle center of gravity with respect to its initial straight path must be at least 1.83 m (6 feet) (for vehicles with a GVWR of 3,500kg (7,716 lb) or less) when computed 1.07 seconds after the Beginning of Steer (BOS) at the specified steering wheel angles.

System malfunction simulations were executed to verify vehicle could identify and indicate a malfunction.

The vehicle's ESC System appears to meet the performance and equipment requirements as required by FMVSS 126. The test results are summarized on the following summary sheet.

2.0 TEST PROCEDURE AND DISCUSSION OF RESULTS ...continued

DATA SUMMARY (Sheet 1 of 2)

VEHICLE MAKE/MODEL/BODY STYLE: Volkswagen / Jetta / Passenger Car

VEHICLE NHTSA NO.: CB5802 VIN: 3VW2K7AJ6BM355755

VEHICLE TYPE: Passenger Car DATE OF MANUFACTURE: 02/11

LABORATORY: Transportation Research Center Inc.

REQUIREMENTS

PASS/FAIL

ESC Equipment and Operational Characteristics (Data Sheet 2)

The vehicle is to be equipped with an ESC System that meets the equipment PASS and operational characteristics requirements. (S126, S5.1, S5.6)

ESC Malfunction Telltale (Data Sheet 3)

The vehicle is equipped with a telltale that indicates one or more PASS ESC System malfunctions. (S126, S5.3)

“ESC Off” and other System Controls and Telltale (Data Sheet 3 & 4)

The vehicle is equipped with an ESC off telltale indicating the vehicle See Remarks has been put into a mode that renders the ESC System unable to satisfy the performance requirements of the standard, if such a mode exists. (S5.5.1)

If provided, off control and other system controls as well as the ESC See Remarks off telltale meets the operational requirements (S126, S5.4, S5.4.1, S5.4.2, S5.5.4, and S5.5.9)

2.0 TEST PROCEDURE AND DISCUSSION OF RESULTS ...continued

DATA SUMMARY (Sheet 2 of 2)

REQUIREMENTS	PASS/FAIL
--------------	-----------

If provided, off control and other system controls as well as the ESC off telltale meets the operational requirements (S126, S5.4, S5.4.1, S5.4.2, S5.5.4, and S5.5.9)	<u>PASS</u>
--	-------------

Vehicle Lateral Stability (Data Sheet 8)

Yaw Rate Ratio at 1 second after COS is less than 35% of peak value. (S126, S5.2.1)	<u>PASS</u>
---	-------------

Yaw Rate Ratio at 1.75 seconds after COS is less than 20% of peak value. (S126, S5.2.2)	<u>PASS</u>
---	-------------

Vehicle Responsiveness (Data Sheet 8)

Lateral displacement at 1.07 seconds after BOS is at least 1.83 m (6 feet) for vehicles with a GVWR of 3,500 kg (7,716 lbs.) or less, and 1.52 m (5 feet) for vehicles with a GVWR greater than 3,500 kg (7,716 lbs.). (S126 S5.2.3)	<u>PASS</u>
--	-------------

ESC Malfunction Warning (Data Sheet 9)

Warning is provided to driver after malfunction occurrence. (S126. S5.3)	<u>PASS</u>
--	-------------

Malfunction telltale stayed illuminated as long as malfunction existed and must extinguish after malfunction was corrected. (S126, S5.3.7)	<u>PASS</u>
--	-------------

REMARKS

The 2011 Volkswagen Jetta does not have an ESC Off Control, therefore it does not have an ESC Off telltale.

3.0 TEST DATA

**DATA SHEET 1 (Sheet 1 of 2)
TEST VEHICLE INSPECTION AND TEST PREPARATION**

VEHICLE MAKE/MODEL/BODY STYLE: Volkswagen / Jetta / Passenger Car

NHTSA No.: CB5802 TEST DATE: 5-09-11

VIN: 3VW2K7AJ6BM355755 MANUFACTURE DATE: 02/11

GVWR: 1,850 KG FRONT GAWR: 940 KG REAR GAWR 960 KG

SEATING POSITIONS: FRONT 2 REAR 3

ODOMETER READING AT START OF TEST: 18 (29) Miles (Kilometers)

DESIGNATED TIRE SIZE(S) FROM VEHICLE LABELING:

Front Axle P205 / 55R 16 Rear Axle P205 / 55R 16

INSTALLED TIRE SIZE(S) ON VEHICLE:

<u>From Tire Sidewall</u>	<u>Front Axle</u>	<u>Rear Axle</u>
Manufacturer and Model	<u>Bridgestone Turanza EL400-02</u>	<u>Bridgestone Turanza EL400-02</u>
Tire Size Designation	<u>P205 / 55R 16 89H</u>	<u>P205 / 55R 16 89H</u>

Are installed tire sizes same as labeled tire sizes? X Yes No
If no, contact COTR for further guidance.

DRIVE CONFIGURATIONS (MARK ALL THAT APPLY):

- X Two Wheel Drive (2WD): (X) Front Wheel Drive () Rear Wheel Drive
- All Wheel Drive (AWD)
- Four Wheel Drive Automatic – differential not locked full time (4WD Automatic)
- Four Wheel Drive High Gear Unlocked Center Differential
- Four Wheel Drive High Gear Locked Center Differential
- Four Wheel Drive Low Gear Unlocked Center Differential
- Four Wheel Drive Low Gear Locked Center Differential
- Other (define _____)

3.0 TEST DATA....continued

**DATA SHEET 1 (Sheet 2 of 2)
TEST VEHICLE INSPECTION AND TEST PREPARATION**

DRIVE CONFIGURATIONS AND MODES: (ex. default, performance, off)
(For each of the vehicle's drive configurations identify available operating modes)

Drive Configuration 2WD
Mode(s) default

Drive Configuration _____
Mode(s) _____

Drive Configuration _____
Mode(s) _____

VEHICLE STABILITY SYSTEMS (Check applicable technologies):

ESC Traction Control Roll Stability Control
 Active Suspension Electronic Throttle Control Active Steering
 ABS

List other systems; Electronic Differential Lock (EDL & XDL)

REMARKS:

RECORDED BY: Alan Ida
APPROVED BY: Ken Webster

DATE: 5-09-11
DATE: 5-17-11

3.0 TEST DATA....continued

**DATA SHEET 2 (Sheet 1 of 2)
ESC SYSTEM HARDWARE AND OPERATIONAL CHARACTERISTICS**

VEHICLE MAKE/MODEL/BODY STYLE: Volkswagen / Jetta / Passenger Car

NHTSA No.: CB5802 TEST DATE: 5-16-11

ESC SYSTEM IDENTIFICATION:

Manufacturer / Model Continental Automotive Systems – ESP MK60 EC PYA

ESC SYSTEM HARDWARE (Check applicable hardware):

- | | |
|---|---|
| <input checked="" type="checkbox"/> Electronic Control Unit | <input checked="" type="checkbox"/> Hydraulic Control Unit |
| <input checked="" type="checkbox"/> Wheel Speed Sensors | <input checked="" type="checkbox"/> Steering Angle Sensor |
| <input checked="" type="checkbox"/> Yaw Rate Sensor | <input checked="" type="checkbox"/> Lateral Acceleration Sensor |

List other components; _____

ESC SYSTEM OPERATIONAL CHARACTERISTICS:

System is capable of generating brake torques at each wheel Yes (PASS)
 No (FAIL)

List and describe component(s): Hydraulic Control Unit

System is capable of determining yaw rate Yes (PASS)
 No (FAIL)

List and describe component(s): Yaw Rate Sensor

System is capable of monitoring driver steering input Yes (PASS)
 No (FAIL)

List and describe component(s): Steering wheel angle sensor

System is capable of estimating side slip or side slip derivation Yes (PASS)
 No (FAIL)

List and describe component(s): The ESC control unit collects data from the steering wheel sensor, the wheel speed sensors, the yaw rate sensor and the lateral acceleration sensor to determine the actual steering angle, vehicle speed, yaw moment and lateral acceleration. The collected data is then used to calculate an estimate of the side slip angle.

3.0 TEST DATA....continued

DATA SHEET 2 (Sheet 2 of 2)
ESC SYSTEM HARDWARE AND OPERATIONAL CHARACTERISTICS

ESC SYSTEM OPERATIONAL CHARACTERISTICS (continued):

System is capable of modifying engine torque during ESC activation. Yes (PASS)
 No (FAIL)

Method used to modify engine torque: The ESC system sends an engine torque request via the engine torque control to the engine control unit. There are 2 different conditions which may trigger a command to reduce engine torque. The first one is an understeer condition and the second one is a wheel slip condition. The modification of engine torque is the same in both conditions. There are 2 different means to achieve engine torque reduction: ignition timing and throttle valve.

System is capable of activation at speeds of 20 km/h (12.4 mph) and higher. Yes (PASS)
 No (FAIL)

Speed system becomes active. forward speed of 10.8 km/h (6.7 mph)

System is capable of activation during the following driving phases (acceleration, deceleration, coasting, and during activation of ABS or traction control). Yes (PASS)
 No (FAIL)

Driving phases that the system is capable of activation. The ESC system is active during all driving phases including acceleration, deceleration, coasting, and during activation of ABS or traction control.

Vehicle manufacturer submitted documentation explaining how the ESC system mitigates understeer? Yes (PASS)
 No (FAIL)

DATA INDICATES COMPLIANCE PASS/FAIL PASS

RECORDED BY: Alan Ida
APPROVED BY: Ken Webster

DATE: 5-16-11
DATE: 5-17-11

3.0 TEST DATA....continued

DATA SHEET 3 (Sheet 1 of 2)
ESC MALFUNCTION AND OFF TELLTALES

VEHICLE MAKE/MODEL/BODY STYLE: Volkswagen / Jetta / Passenger Car

VEHICLE NHTSA NO. CB5802 TEST DATE: 5-16-11

ESC Malfunction Telltale

Vehicle is equipped with malfunction telltale? Yes (Pass) No (Fail)

Telltale Location Instrument cluster, inside the speedometer

Telltale Color Yellow

Telltale symbol or abbreviation used.



Or **ESC**

- Vehicle uses this symbol
- Vehicles uses this abbreviation
- Neither symbol or abbreviation is used

If different than identified above, make note of any message, symbol or abbreviation used.

Is telltale part of a common space? Yes No

Is telltale also used to indicate activation of the ESC system? Yes No

If yes, explain telltale operation during ESC activation: During ESC Activation, the ESC skidding car symbol flashes.

3.0 TEST DATA....continued

DATA SHEET 4 (Sheet 1 of 3)
ESC AND ANCILLARY SYSTEM CONTROLS

“ESC OFF” Controls Identification and Operational Check:

Is the vehicle equipped with a control or controls whose purpose is to deactivate the ESC system or place the ESC system in a mode or modes that may no longer satisfy the performance requirements of the standard?

_____ Yes X No

Type of control or controls provided? _____ Dedicated “ESC Off” control
(mark all that apply) _____ Multi-functional control with an
“ESC Off” mode
_____ Other (describe)

Identify each control location, labeling and selectable modes.

First Control: Location N/A
Labeling _____
Modes _____

Identify standard or default drive configuration N/A

Verify standard or default drive configuration selected. _____ Yes _____ No

Does the “ESC Off” telltale illuminate upon activation of the dedicated ESC off control or selection of the “ESC Off” mode on the multi-function control?

_____ Yes _____ No (fail)

Does the “ESC Off” telltale extinguish when the ignition is cycled from “On” (“Run”) to “Lock” or “Off” and then back again to the “On” (“Run”) position?

_____ Yes _____ No (fail)

If no, describe how the off control functions:

3.0 TEST DATA....continued

**DATA SHEET 4 (Sheet 2 of 3)
ESC AND ANCILLARY SYSTEM CONTROLS**

If a multi-function control is provided, cycle through each mode setting on the control and record which modes illuminate the “ESC Off” telltale. Also, for those modes that illuminate the ESC Off” telltale identify if the telltale extinguishes upon cycling the ignition system.

Control Modes	“ESC Off” telltale illuminates upon activation of control? (Yes/No)	“ESC Off” telltale extinguishes upon cycling ignition? (Yes/No)
N/A		

For each mode that illuminates the “ESC Off” telltale, did the telltale extinguish when the ignition was cycled from “On” (“Run”) to “Lock” or “Off” and then back again to the “On” (“Run”) position?

_____ Yes _____ No (fail)

Other System Controls that have an ancillary effect on ESC Operation:

Is the vehicle equipped with any ancillary controls that upon activation may deactivate the ESC System or place the ESC System in a mode or modes that may no longer satisfy the performance requirements of the standard?

_____ Yes X No

List and describe each control (i.e. alternate drive configuration selection controls):

Ancillary Control: System _____ N/A _____
 Control Description _____
 Labeling _____

Ancillary Control: System _____ N/A _____
 Control Description _____
 Labeling _____

3.0 TEST DATA....continued

**DATA SHEET 4 (Sheet 3 of 3)
ESC AND ANCILLARY SYSTEM CONTROLS**

Activate each control listed above and record whether the control illuminates the “ESC Off” telltale. Also, record warnings or messages provided regarding the ESC System.

Ancillary Control	Control Activates “ESC Off” Telltale? (Yes/No)	Warnings or Messages Provided
N/A		

For those controls that illuminate the “ESC Off” telltale above identify if the “ESC Off” telltale extinguishes upon cycling the ignition system.

Ancillary Control	“ESC Off” telltale extinguishes upon cycling ignition? (Yes/No)
N/A	

For each control that illuminates the “ESC Off” telltale, did the telltale extinguish when the ignition is cycled from “On” (“Run”) to “Lock” or “Off” and then back again to the “On” (“Run”) position? If the control activated places the vehicle into a low-range four-wheel drive configuration designed for low-speed, off-road driving, the ESC System may remain turned off after the ignition has been cycled off and then back on and therefore the “ESC Off” telltale may not extinguish.

_____ Yes _____ No (fail)

DATA INDICATES COMPLIANCE:

PASS/FAIL PASS

REMARKS:

RECORDED BY: Alan Ida
APPROVED BY: Ken Webster

DATE: 5-16-11
DATE: 5-17-11

3.0 TEST DATA....continued

**DATA SHEET 5 (Sheet 1 of 3)
VEHICLE AND TEST TRACK DATA**

VEHICLE MAKE/MODEL/BODY STYLE: Volkswagen / Jetta / Passenger Car

NHTSA No.: CB5802 TEST DATE: 5-12-11

Test Track Requirements: Test Surface Slope (0-1 %) 1 %

Peak Friction Coefficient (at least 0.9) 0.93

Full Fluid Levels: Fuel X Coolant X Other Fluids Washer (specify)

Tire Pressures: Required: Front Axle 220 kPa Rear Axle 220 kPa

Actual: LF: 220 kPa RF: 220 kPa LR: 220 kPa RR: 220 kPa

Vehicle Dimensions: Track Width 153.4 cm Wheelbase 264.8 cm

Roof Height 144.0 cm

Vehicle weight ratings: GAWR Front 940 KG GAWR Rear 960 KG

Unloaded Vehicle Weight (UVW)

Front Axle 789.4 KG Left Front 384.8 KG Right Front 404.6 KG

Rear Axle 563.4 KG Left Rear 294.2 KG Right Rear 269.2 KG

Total UVW 1,352.8 KG

Baseline Weight and Outrigger Selection (only for MPVs, Trucks, Buses)

Calculated Baseline Weight (UVW+ 73 kg) 1,425.8 KG

Outrigger size required ("Standard" or "Heavy") N/A

Standard - Baseline weight under 2,722 kg (6,000 lbs.)

Heavy - Baseline weight equal to or greater than 2,722 kg (6,000 lbs.)

3.0 TEST DATA....continued

**DATA SHEET 5 (Sheet 2 of 3)
VEHICLE AND TEST TRACK DATA**

Loaded Vehicle Weight w/ Driver and Instrumentation (No Ballast)

Front Axle 865.6 KG Left Front 430.6 KG Right Front 435.0 KG

Rear Axle 620.2 KG Left Rear 327.6 KG Right Rear 292.6 KG

Total Loaded Vehicle Weight 1,485.8 KG

Ballast Required = [**Total Unloaded Vehicle Weight + 168 KG**] - **Total Loaded Weight w/ Driver and Instrumentation**

= [1,352.8 KG + 168 KG] - 1,485.8 KG

= 35.0 KG

Total Loaded Vehicle Weight

Front Axle 879.8 KG Left Front 432.2 KG Right Front 447.6 KG

Rear Axle 641.0 KG Left Rear 334.2 KG Right Rear 306.8 KG

Total Loaded Vehicle Weight 1,520.8 KG

3.0 TEST DATA....continued

DATA SHEET 5 (Sheet 3 of 3)
VEHICLE AND TEST TRACK DATA

Center of Gravity and Inertial Sensing System Location at Loaded Vehicle Condition

x-distance (longitudinal) Point of reference is the front axle centerline.
(Positive from front axle toward rear of vehicle.)

y-distance (lateral) Point of reference is the vehicle centerline.
(Positive from the center toward the right.)

z-distance (vertical) Point of reference is the ground plane.
(Positive from the ground up.)

Locations:

	Center of Gravity	Inertial Sensing System
x-distance	<u>111.6</u> cm	<u>156.8</u> cm
y-distance	<u>-0.6</u> cm	<u>-0.6</u> cm
z-distance	<u>54.7</u> cm	<u>67.7</u> cm

Distance Between Ultrasonic Sensors: 183.4 cm

TEST TRACK DATA MEETS REQUIREMENTS: YES/NO YES
If no, explain: _____

REMARKS:

RECORDED BY: Alan Ida
APPROVED BY: Ken Webster

DATE: 5-12-11
DATE: 5-17-11

3.0 TEST DATA....continued

**DATA SHEET 6 (Sheet 1 of 3)
BRAKE AND TIRE CONDITIONING**

VEHICLE MAKE/MODEL/BODY STYLE: Volkswagen / Jetta / Passenger Car

VEHICLE NHTSA No.: CB5802

Measured Cold Tire Pressures: LF 220 kPa RF 220 kPa

LR 220 kPa RR 220 kPa

Wind Speed 4.5 m/sec
(10m/sec (22mph) max for passenger cars; 5m/s (11mph) max. for MPVs and Trucks)

Ambient Temperature (7°C (45°F) - 40°C (104°F)) 24.4 °C

Brake Conditioning Time; 11:00 AM Date; 5-13-11

56 km/h (35 mph) Brake Stops

Number of stops executed (10 required) 10 stops

Observed deceleration rate range (.5g target) 0.50 – 0.56 g

72 km/h (45 mph) Brake Stops

Number of stops executed (3 required) 3 stops

Number of stops ABS activated (3 required) 3 stops

Observed deceleration rate range 1.00 – 1.10 g

72 km/h (45 mph) Brake Cool Down Period

Duration of cool down period (5 minutes min.) 5:32 minutes

3.0 TEST DATA....continued

DATA SHEET 6 (Sheet 3 of 3) BRAKE AND TIRE CONDITIONING

Tire Conditioning Series No. 2 Time: 1:34 PM Date: 5-13-11

Measured Tire Pressures: LF 255 kPa RF 252 kPa

LR 248 kPa RR 245 kPa

Wind Speed 4.9 m/sec
(10m/sec (22mph) max for passenger cars; 5m/s (11mph) max. for MPVs and Trucks)

Ambient Temperature (7°C (45°F) - 40°C (104°F)) 26.7 °C

30 meter (100 ft) Diameter Circle Maneuver				
Test Runs	Steering Direction	Target Lateral Acceleration (g)	Observed Lateral Acceleration (g)	Observed Vehicle Speed (km/h)
1-3	clockwise	0.5-0.6	0.55	32.2
4-6	counterclockwise	0.5-0.6	0.55	32.2

1 Hz 5 Cycle Sinusoidal Steering Maneuver to Determine Steering Wheel Angle For 0.5-0.6g Lateral Acceleration				
Test Runs	Vehicle Speed Km/h (mph)	Steering Wheel Angle (degrees)	Target Peak Lateral Acceleration (g)	Observed Peak Lateral Acceleration (g)
1	56±2 (35±1)	N/A	0.5-0.6	N/A
2	56±2 (35±1)		0.5-0.6	
3	56±2 (35±1)		0.5-0.6	
4	56±2 (35±1)		0.5-0.6	

Steering wheel angle that corresponds to a peak 0.5–0.6g lateral acceleration; 80 degrees

1 Hz 10 Cycle Sinusoidal Steering Maneuver				
Test Runs	Vehicle Speed (mph)	Steering Wheel Angle (degrees)	Target Peak Lateral Acceleration (g)	Observed Peak Lateral Acceleration (g)
1 - 3	56±2 (35±1)	80 (cycles 1-10)	0.5-0.6	0.55
4	56±2 (35±1)	80 (cycles 1-9)	0.5-0.6	0.55
		160 (cycle 10)*	N/A	0.94

* The steering wheel angle used for cycle 10 should be twice the angle used for cycles 1-9.

REMARKS:

RECORDED BY: Alan Ida

DATE: 5-13-11

APPROVED BY: Ken Webster

DATE: 5-17-11

3.0 TEST DATA....continued

**DATA SHEET 7 (1 of 2)
SLOWLY INCREASING STEER (SIS) MANEUVER**

VEHICLE MAKE/MODEL/BODY STYLE: Volkswagen / Jetta / Passenger Car

VEHICLE NHTSA No.: CB5802 TEST DATE: 5-13-11

Wind Speed 0.9 m/sec
(10m/sec (22mph) max for passenger cars; 5m/s (11mph) max. for MPVs and Trucks)

Ambient Temperature (7°C (45°F) - 40°C (104°F)) 25.0 °C

Static Data File Number: 0007

Selected Drive Configuration: 2WD

Selected Mode: default

Preliminary Left Steer Maneuver:

Lateral Acceleration measured at 30 degrees steering wheel angle ($a_{y,30 \text{ degrees}}$)

$$a_{y,30 \text{ degrees}} = \underline{0.37} \text{ g}$$

Assuming a linear relationship the following ratio should be used to calculate the steering wheel angle at .55g.

$$\frac{30 \text{ degrees}}{a_{y,30 \text{ degrees}}} = \frac{\delta_{SIS}}{0.55 \text{ g}} \qquad \delta_{SIS} = \underline{44.6} \text{ degrees @ } 0.55\text{g}$$

$$\delta_{SIS} = \underline{50} \text{ degrees (rounded)}$$

Steering Wheel Angle at Corrected 0.3 g Lateral Acceleration:

Maneuver #	Initial Steer Direction	Time Clock (5 min max between runs)	Steering Wheel Angle to nearest 0.1 degree (degrees)	All Conditions Met?
0009	Left	11:57 am	-30.0	Yes
0011	Left	12:04 pm	-29.8	Yes
0012	Left	12:07 pm	-29.7	Yes
0015	Right	12:14 pm	31.7	Yes
0016	Right	12:18 pm	30.5	Yes
0017	Right	12:20 pm	31.1	Yes

3.0 TEST DATA....continued

**DATA SHEET 7 (2 of 2)
SLOWLY INCREASING STEER (SIS) MANEUVER**

Average Overall Steering Wheel Angle:

$$\delta_{0.3 \text{ g, overall}} = (|\delta_{0.3 \text{ g, left (1)}}| + |\delta_{0.3 \text{ g, left (2)}}| + |\delta_{0.3 \text{ g, left (3)}}| + \delta_{0.3 \text{ g, right (1)}} + \delta_{0.3 \text{ g, right (2)}} + \delta_{0.3 \text{ g, right (3)}}) / 6$$

$$\delta_{0.3 \text{ g, overall}} = \underline{\quad 30.5 \quad} \text{ degrees} \\ \text{[to nearest 0.1 degree]}$$

REMARKS:

Files 0010, 0013 and 0014 were omitted due to vehicle speed outside of the tolerance range. Therefore, the time clock indicates more than 5 minutes between maneuvers.

RECORDED BY: Alan Ida
APPROVED BY: Ken Webster

DATE: 5-13-11
DATE: 5-17-11

3.0 TEST DATA....continued

DATA SHEET 8 (1 of 3) VEHICLE LATERAL STABILITY AND RESPONSIVENESS

VEHICLE MAKE/MODEL/BODY STYLE: Volkswagen / Jetta / Passenger Car

VEHICLE NHTSA No.: CB5802 TEST DATE: 5-13-11

Tire conditioning completed	<u>X</u>	Yes	<u> </u>	No
ESC system is enabled	<u>X</u>	Yes	<u> </u>	No
On track calibration checks have been completed	<u>X</u>	Yes	<u> </u>	No
On track static data file for each sensor obtained	<u>X</u>	Yes	<u> </u>	No

Selected Drive Configuration: 2WD
Selected Mode: default

Overall steering wheel angle ($\delta_{0.3g, overall}$) 30.5 degrees

Static Data File Number 0023

Lateral Stability Test Series No. 1 – Counterclockwise Initial Steer Direction

Maneuver #	Clock Time (1.5 – 5 min between each test run)	Commanded Steering Wheel Angle ¹ (degrees)		Yaw Rates (degrees/sec)			YRR at 1.0 sec after COS [$\leq 35\%$]		YRR at 1.75 sec after COS [$\leq 20\%$]	
		Scalar	Angle	$\dot{\psi}_{Peak}$	$\dot{\psi}_{1.0sec}$	$\dot{\psi}_{1.75sec}$	%	Pass/Fail	%	Pass/Fail
0024	1:59 pm	1.5* $\delta_{0.3g}$	46	12.47	0.14	-0.02	1.16	Pass	-0.14	Pass
0025	2:03 pm	2.0* $\delta_{0.3g}$	61	16.23	-0.18	-0.14	-1.10	Pass	-0.87	Pass
0027	2:10 pm	2.5* $\delta_{0.3g}$	76	20.40	-0.01	0.02	-0.06	Pass	0.07	Pass
0028	2:13 pm	3.0* $\delta_{0.3g}$	92	25.27	-0.06	-0.02	-0.24	Pass	-0.06	Pass
0029	2:18 pm	3.5* $\delta_{0.3g}$	107	30.27	-0.10	0.08	-0.33	Pass	0.26	Pass
0030	2:22 pm	4.0* $\delta_{0.3g}$	122	35.86	0.06	-0.23	0.17	Pass	-0.64	Pass
0031	2:26 pm	4.5* $\delta_{0.3g}$	137	41.38	0.07	-0.35	0.16	Pass	-0.86	Pass
0032	2:32 pm	5.0* $\delta_{0.3g}$	153	44.06	0.03	-0.31	0.06	Pass	-0.71	Pass
0033	2:35 pm	5.5* $\delta_{0.3g}$	168	47.58	-0.57	-0.21	-1.20	Pass	-0.44	Pass
0034	2:39 pm	6.0* $\delta_{0.3g}$	183	50.83	-3.46	-0.20	-6.81	Pass	-0.40	Pass
0035	2:42 pm	6.5* $\delta_{0.3g}$	198	53.41	-5.52	-0.30	-10.34	Pass	-0.57	Pass
0036	2:45 pm	7.0* $\delta_{0.3g}$	214	56.55	-4.99	-0.12	-8.83	Pass	-0.21	Pass
0037	2:49 pm	7.5* $\delta_{0.3g}$	229	57.32	-3.32	-0.38	-5.79	Pass	-0.66	Pass
0038	2:52 pm	8.0* $\delta_{0.3g}$	244	59.55	-5.11	-0.35	-8.58	Pass	-0.58	Pass
0039	2:55 pm	8.5* $\delta_{0.3g}$	259	60.16	-1.60	-0.23	-2.65	Pass	-0.38	Pass
0040	2:59 pm	8.9* $\delta_{0.3g}$	270	59.37	-4.28	-0.42	-7.20	Pass	-0.70	Pass

1. Maneuver execution should continue until a steering wheel angle magnitude factor of $6.5 * \delta_{0.3g, overall}$ or 270 degrees is utilized, whichever is greater provided the calculated magnitude of $6.5 * \delta_{0.3g, overall}$ is less than or equal to 300 degrees. If $6.5 * \delta_{0.3g, overall}$ is less than 270 degrees maneuver execution should continue by increasing the steering wheel angle magnitude by multiples of $0.5 * \delta_{0.3g, overall}$ without exceeding the 270 degree steering wheel angle.

3.0 TEST DATA....continued

**DATA SHEET 8 (2 of 3)
VEHICLE LATERAL STABILITY AND RESPONSIVENESS**

Lateral Stability Test Series No. 2 – Clockwise Initial Steer Direction

Maneuver #	Clock Time (1.5 – 5 min between each test run)	Commanded Steering Wheel Angle ¹ (degrees)		Yaw Rates (degrees/sec)			YRR at 1.0 sec after COS [$\leq 35\%$]		YRR at 1.75 sec after COS [$\leq 20\%$]	
		Scalar	Angle	$\dot{\psi}_{Peak}$	$\dot{\psi}_{1.0sec}$	$\dot{\psi}_{1.75sec}$	%	Pass/Fail	%	Pass/Fail
0041	3:02 pm	1.5* $\delta_{0.3g}$	46	-12.97	0.04	0.06	-0.31	Pass	-0.46	Pass
0042	3:05 pm	2.0* $\delta_{0.3g}$	61	-17.75	-0.09	-0.14	0.53	Pass	0.76	Pass
0043	3:09 pm	2.5* $\delta_{0.3g}$	76	-21.70	0.11	0.16	-0.49	Pass	-0.73	Pass
0044	3:12 pm	3.0* $\delta_{0.3g}$	92	-26.52	0.17	0.00	-0.65	Pass	0.01	Pass
0045	3:15 pm	3.5* $\delta_{0.3g}$	107	-31.78	-0.15	-0.09	0.47	Pass	0.28	Pass
0046	3:19 pm	4.0* $\delta_{0.3g}$	122	-37.60	-0.57	-0.13	1.53	Pass	0.34	Pass
0047	3:22 pm	4.5* $\delta_{0.3g}$	137	-42.21	-0.48	-0.07	1.13	Pass	0.15	Pass
0048	3:25 pm	5.0* $\delta_{0.3g}$	153	-45.88	-0.12	-0.03	0.27	Pass	0.05	Pass
0049	3:28 pm	5.5* $\delta_{0.3g}$	168	-48.10	1.51	0.01	-3.14	Pass	-0.03	Pass
0050	3:32 pm	6.0* $\delta_{0.3g}$	183	-52.30	4.01	0.15	-7.67	Pass	-0.29	Pass
0051	3:36 pm	6.5* $\delta_{0.3g}$	198	-52.55	2.95	-0.23	-5.61	Pass	0.43	Pass
0052	3:39 pm	7.0* $\delta_{0.3g}$	214	-55.77	4.14	-0.09	-7.43	Pass	0.15	Pass
0053	3:42 pm	7.5* $\delta_{0.3g}$	229	-56.97	3.91	0.09	-6.86	Pass	-0.15	Pass
0054	3:45 pm	8.0* $\delta_{0.3g}$	244	-57.73	3.15	-0.30	-5.45	Pass	0.52	Pass
0055	3:49 pm	8.5* $\delta_{0.3g}$	259	-60.76	3.39	-0.17	-5.58	Pass	0.28	Pass
0056	3:52 pm	8.9* $\delta_{0.3g}$	270	-61.67	3.56	-0.20	-5.78	Pass	0.32	Pass

1. Maneuver execution should continue until a steering wheel angle magnitude factor of $6.5 * \delta_{0.3g, overall}$ or 270 degrees is utilized, whichever is greater provided the calculated $6.5 * \delta_{0.3g, overall}$ is less than or equal to 300 degrees. If $6.5 * \delta_{0.3g, overall}$ is less than 270 degrees maneuver execution should continue by increasing the steering wheel angle magnitude by multiples of $0.5 * \delta_{0.3g, overall}$ without exceeding the 270 degree steering wheel angle.

During execution of the sine with dwell maneuvers were any of the following events observed?

- Rim-to-pavement contact _____ Yes X No
- Tire debanding _____ Yes X No
- Loss of pavement contact of vehicle tires _____ Yes X No
- Did the test driver experience any vehicle loss of control or spinout? _____ Yes X No

If "Yes" explain the event and consult with the COTR. _____

3.0 TEST DATA....continued

DATA SHEET 8 (3 of 3) VEHICLE LATERAL STABILITY AND RESPONSIVENESS

Responsiveness – Lateral Displacement

Maneuver #	Initial Steer Direction	Commanded Steering Wheel Angle ($5.0^* \delta_{0.3g, overall}$ or greater)		Calculated Lateral Displacement ¹	
		Scalar	Angle (degrees)	Distance (m)	Pass/Fail
0032	Counter Clockwise	$5.0^* \delta_{0.3g}$	153	3.18	Pass
0033	Counter Clockwise	$5.5^* \delta_{0.3g}$	168	3.23	Pass
0034	Counter Clockwise	$6.0^* \delta_{0.3g}$	183	3.26	Pass
0035	Counter Clockwise	$6.5^* \delta_{0.3g}$	198	3.42	Pass
0036	Counter Clockwise	$7.0^* \delta_{0.3g}$	214	3.40	Pass
0037	Counter Clockwise	$7.5^* \delta_{0.3g}$	229	3.43	Pass
0038	Counter Clockwise	$8.0^* \delta_{0.3g}$	244	3.39	Pass
0039	Counter Clockwise	$8.5^* \delta_{0.3g}$	259	3.38	Pass
0040	Counter Clockwise	$8.9^* \delta_{0.3g}$	270	3.44	Pass
0048	Clockwise	$5.0^* \delta_{0.3g}$	153	3.13	Pass
0049	Clockwise	$5.5^* \delta_{0.3g}$	168	3.27	Pass
0050	Clockwise	$6.0^* \delta_{0.3g}$	183	3.33	Pass
0051	Clockwise	$6.5^* \delta_{0.3g}$	198	3.36	Pass
0052	Clockwise	$7.0^* \delta_{0.3g}$	214	3.39	Pass
0053	Clockwise	$7.5^* \delta_{0.3g}$	229	3.41	Pass
0054	Clockwise	$8.0^* \delta_{0.3g}$	244	3.53	Pass
0055	Clockwise	$8.5^* \delta_{0.3g}$	259	3.49	Pass
0056	Clockwise	$8.9^* \delta_{0.3g}$	270	3.49	Pass

1. Lateral displacement should be ≥ 1.83 m (6 ft) for vehicles with a GVWR of 3,500 kg (7,716 lb) or less; and ≥ 1.52 m (5ft) for vehicles with a GVWR greater than 3,500 kg (7,716 lb).

DATA INDICATES COMPLIANCE:

PASS/FAIL PASS

REMARKS:

RECORDED BY: Alan Ida
APPROVED BY: Ken Webster

DATE: 5-13-11
DATE: 5-17-11

3.0 TEST DATA....continued

**DATA SHEET 9 (Sheet 1 of 2)
MALFUNCTION WARNING TEST**

VEHICLE MAKE/MODEL/BODY STYLE: Volkswagen / Jetta / Passenger Car

VEHICLE NHTSA No.: CB5802 TEST DATE: 5-16-11

METHOD OF MALFUNCTION SIMULATION:

Describe method of malfunction simulation: Disconnect the Left Front wheel speed sensor connector.

MALFUNCTION TELLTALE ILLUMINATION:

Telltale illuminates and remains illuminated after ignition locking system is activated and if necessary the vehicle is driven at least 2 minutes.

Yes No

Time for telltale to illuminate after ignition system is activated.

2 Seconds (must be within 2 minutes) Pass Fail

ESC SYSTEM RESTORATION:

Telltale extinguishes after ignition locking system is activated and if necessary the vehicle is driven at least 2 minutes.

Yes No

Time for telltale to extinguish after ignition system is activated and vehicle speed of 48± 8 km/h (30± 5mph) is reached.

2 Seconds (must be within 2 minutes) Pass Fail

DATA INDICATES COMPLIANCE:

PASS/FAIL PASS

REMARKS:

The vehicle did not require driving to illuminate or extinguish the malfunction telltales. When the wheel speed sensor was disconnected, the ESC and ABS malfunction telltales illuminated. Also, the TPMS malfunction telltale was flashing. After the wheel speed sensor connector was restored, the ESC, ABS, and TPMS malfunction telltales had extinguished.

RECORDED BY: Alan Ida

DATE: 5-16-11

APPROVED BY: Ken Webster

DATE: 5-17-11

3.0 TEST DATA....continued

**DATA SHEET 9 (Sheet 2 of 2)
MALFUNCTION WARNING TEST**

VEHICLE MAKE/MODEL/BODY STYLE: Volkswagen / Jetta / Passenger Car

VEHICLE NHTSA No.: CB5802 TEST DATE: 5-16-11

METHOD OF MALFUNCTION SIMULATION:

Describe method of malfunction simulation: Remove the 30-amp ESC ECU fuse (F16)
from the engine compartment fuse box.

MALFUNCTION TELLTALE ILLUMINATION:

Telltale illuminates and remains illuminated after ignition locking system is activated and if necessary the vehicle is driven at least 2 minutes.

Yes No

Time for telltale to illuminate after ignition system is activated.

2 Seconds (must be within 2 minutes) Pass Fail

ESC SYSTEM RESTORATION:

Telltale extinguishes after ignition locking system is activated and if necessary the vehicle is driven at least 2 minutes.

Yes No

Time for telltale to extinguish after ignition system is activated.

2 Seconds (must be within 2 minutes) Pass Fail

DATA INDICATES COMPLIANCE:

PASS/FAIL PASS

REMARKS:

The vehicle did not require driving to illuminate or extinguish the malfunction telltales. When the 30-amp ESC ECU fuse was removed, the ESC, EPC, and ABS malfunction telltales illuminated. Also, the Brake and TPMS malfunction telltales were flashing. The TPMS telltale flashed for 30 seconds and then remained illuminated. After the 30-amp ESC ECU fuse was restored, the ESC, EPC, ABS, Brake, and TPMS malfunction telltales had extinguished.

RECORDED BY: Alan Ida

DATE: 5-16-11

APPROVED BY: Ken Webster

DATE: 5-17-11

4.0 TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

Type	Output	Range	Resolution	Accuracy	Specifics	Serial Number	Calibration
Tire Pressure Gauge	Vehicle Tire Pressure	0-60psi	0.5 psi	±0.5% of applied pressure	Moroso Model: 89562 0-60psi	<u>N/A</u>	By: <u>TRC</u> Date: <u>3-29-11</u> Due: <u>6-27-11</u>
Platform Scales	Vehicle Total, Wheel, and Axle Load	0-2500 lb per each of four pads	0.5 lb	±1.0% of applied load	Mettler Toledo Model: JXGA1000	<u>5225831-5JC</u>	By: <u>Mettler Toledo</u> Date: <u>2-14-11</u> Due: <u>5-14-11</u>
Automated Steering Machine with Steering Angle Encoder	Handwheel Angle	±800 deg	0.25 deg	±0.25 deg	Heitz Automotive Testing Model: Sprint 3	<u>60303</u>	By: <u>ATI-Heitz</u> Date: <u>2-18-11</u> Due: <u>2-18-12</u>
Multi-Axis Inertial Sensing System	Longitudinal, Lateral, and Vertical Acceleration Roll, Yaw, and Pitch Rate	Accelerometers: ±2 g Angular Rate Sensors: ±100 deg/s	Accelerometers: ≤10 ug Angular Rate Sensors: ≤0.004 deg/s	Accelerometers: ≤0.05% of full range Angular Rate Sensors: 0.05% of full range	BEI Technologies Model: MotionPAK MP-1	<u>0768</u>	By: <u>BEI Tech.</u> Date: <u>1-10-11</u> Due: <u>1-10-12</u>
Radar Speed Sensor and Dashboard Display	Vehicle Speed	0-125 mph	0.009 mph	±0.25% of full scale	A-DAT Corp. Radar Model: DRS-6 Display Model: RD-2	<u>1400603</u>	By: <u>B+S Multidata</u> Date: <u>2-14-11</u> Due: <u>2-14-12</u>
Ultrasonic Distance Measuring System	Left and Right Side Vehicle Height	5-24 inches	0.01 inches	±0.25% of maximum distance	Massa Products Corporation Model: M-5000/220	<u>104619 & 104613</u>	By: <u>Consumers Energy Laboratory Services</u> Date: <u>1-20-11</u> Due: <u>1-20-12</u>
Data Acquisition System [Amplify, Anti-Alias, and Digitize]	Record Time; Velocity; Distance; Lateral, Longitudinal, and Vertical Accelerations; Roll, Yaw, and Pitch Rates; Steering Wheel Angle.	Sufficient to meet or exceed individual sensors	200 Hz	Sufficient to meet or exceed individual sensors	Dewetron Sidehand DAS Model: DA-121-16 Digitizer Model: Dewe-Orion-1616-100 Amplifier/AntiAliasing: MDAQ-FILT-10-S	<u>120601105</u>	By: <u>Dewetron</u> Date: <u>12-02-10</u> Due: <u>12-02-11</u>
Load Cell	Vehicle Brake Pedal Force	0-300 lb	1 lb	±0.05% of full scale	DATRON Model: DTM-LPA	<u>4970-1103</u>	By: <u>TRC</u> Date: <u>per test</u> Due: <u>per test</u>
Coordinate Measurement Machine	Inertial Sensing System Location	0-10 feet	0.001 inch	±0.003% of full scale	FARO International Model: Faro Arm N10	<u>U12-05-08-07108</u>	By: <u>FARO</u> Date: <u>7-30-10</u> Due: <u>7-30-11</u>
Outriggers	No output. Safety Item.	N/A	N/A	N/A	NHTSA Titanium Outriggers Model: Docket 2007-27662-11	N/A	N/A

5.0 PHOTOGRAPHS

- 5.1 ¾ FRONT VIEW FROM LEFT SIDE OF VEHICLE
- 5.2 ¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE
- 5.3 VEHICLE CERTIFICATION LABEL
- 5.4 TIRE AND LOADING INFORMATION LABEL
- 5.5 WINDOW STICKER (MONRONEY LABEL)
- 5.6 ESC MALFUNCTION TELLTALE
- 5.7 ¾ FRONT VIEW - TEST VEHICLE INSTRUMENTED
- 5.8 ¾ REAR VIEW – TEST VEHICLE INSTRUMENTED
- 5.9 STEERING WHEEL CONTROLLER AND DATA ACQUISITION SYSTEM
- 5.10 STEERING CONTROLLER BATTERY BOX
- 5.11 INERTIA MEASUREMENT UNIT
- 5.12 VEHICLE SPEED SENSOR
- 5.13 BODY ROLL SENSOR (DRIVER SIDE)
- 5.14 BODY ROLL SENSOR (PASSENGER SIDE)
- 5.15 BRAKE PEDAL FORCE TRANSDUCER



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2011 VOLKSWAGEN JETTA
FMVSS 126
VEHICLE No.: CB5802
MAY 2011

5.1 ¾ FRONT VIEW FROM LEFT SIDE OF VEHICLE



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2011 VOLKSWAGEN JETTA
FMVSS 126
VEHICLE No.: CB5802
MAY 2011

5.2 ¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE

MANUFACTURED BY VOLKSWAGEN DE MEXICO S.A. DE C.V.
GVWR 4079 LBS GAWR FRONT 2072 LBS GAWR REAR 2116 LBS DATE 02.11
THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY, BUMPER,
AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
VEHICLE I.D. NO. 3VW2K7AJ6BM355755 TYPE: PASSENGER CAR

1C0 010 374 C
C 4 / 10

COUNTRY OF ORIGIN: MEXICO

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2011 VOLKSWAGEN JETTA
FMVSS 126
VEHICLE No.: CB5802
MAY 2011

5.3 VEHICLE CERTIFICATION LABEL



TIRE AND LOADING INFORMATION RENSEIGNEMENTS SUR LES PNEUS ET LE CHARGEMENT

SEATING CAPACITY/NOMBRE DE PLACES | TOTAL 5 | FRONT/AVANT 2 | REAR/ARRIÈRE 3

THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED 495 KG OR 1091 LBS
LE POIDS TOTAL DES OCCUPANTS ET DU CHARGEMENT NE DOIT JAMAIS DÉPASSER 495 KG OU 1091 LB.

5C0 010 793 B

32

TIRE PNEU	SIZE DIMENSIONS	COLD TIRE PRESSURE PRESSION DES PNEUS À FROID
FRONT/AVANT	205/55 R16	220 KPA / 33 PSI
REAR/ARRIÈRE	205/55 R16	220 KPA / 33 PSI
SPARE/DE SECOURS	205/55 R16	220 KPA / 33 PSI

SEE OWNER'S MANUAL
FOR ADDITIONAL
INFORMATION
VOIR LE MANUEL DE
L'USAGER POUR PLUS DE
RENSEIGNEMENTS

YXT

2011 VOLKSWAGEN JETTA
FMVSS 126
VEHICLE No.: CB5802
MAY 2011

5.4 TIRE AND LOADING INFORMATION LABEL

2011 Jetta S

Exterior: Reflex Silver Metallic Exterior Interior: Titan Black Interior

Great. For The Price Of Good.



STANDARD FEATURES (unless replaced by options)

PERFORMANCE/HANDLING

- 2.0L 115 horsepower, 125 lbs-ft torque, in-line 4 cylinder engine
- Front-Wheel Drive
- Anti-lock Braking system (ABS)
- Anti-Slip Regulation (ASR)
- Electronic Stability Control (ESC)
- Electronic differential lock (EDL)
- 15" steel wheels w/ full wheel covers & all-season tires

SAFETY/DURABILITY

- Driver & front passenger airbag supplemental restraint system
- Driver & front passenger side airbag supplemental restraint system
- Side Curtain Protection® head impact airbags, front & rear
- 3-point safety belts, all seating positions
- Head restraints for all seating positions
- Lower Anchors & Tethers for Children (LATCH)
- Child safety rear door locks
- Daytime Running Lights (DRL)
- Height adjustable front safety belts
- Side protection door beams
- Tire Pressure Monitoring System (TPMS)

COMFORT/CONVENIENCE

- Air conditioning, CFC-free
- RCD 310 radio w/ single CD player, aux. input & 4 speakers
- 6-way adjustable driver's seat
- 60/40 split folding rear seat
- Height adjustable, telescoping steering column
- Vanity mirrors
- Remote keyless locking system
- Power windows w/ pinch protection
- Power, heatable exterior mirrors
- Adjustable intermittent front wipers
- Immobilizer theft deterrent system

Manufacturer's Suggested Retail Price: **\$17,095.00**

DRIVER CARE PACKAGE

WARRANTY INFORMATION

- Volkswagen New Vehicle Limited Warranty
- * 3 years/36,000 miles (whichever occurs first)
- Powertrain Limited Warranty
- * 5 years/60,000 miles (whichever occurs first)
- Limited Warranty against Corrosion Perforation
- * 12 years/unlimited mileage
- 24-HOUR ROADSIDE ASSISTANCE
- * 3 years/36,000 miles (whichever occurs first)
- (Towing coverage for warranty-related failures and battery jump starts)
- Provided by a third party supplier

VOLKSWAGEN CAREFREE MAINTENANCE

Scheduled maintenance services described in the Volkswagen Maintenance booklets are covered at no charge for 3 years/36,000 miles (whichever occurs first)

PACKAGES/OPTIONS

- Reflex Silver Metallic Exterior
- Titan Black Interior
- Rubber Mats (set of 4) and Trunk Liner
- Chrome Exhaust Tips
- 6-Speed Automatic Tiptronic® Transmission

- No Charge
- No Charge
- \$235.00
- \$160.00
- No Charge

Destination Charge

\$770.00

Total Price: \$18,260.00

Fuel, license, title fees, taxes and dealer-installed accessories are not included.

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE:	FOR THIS VEHICLE:
U.S./CANADIAN	FINAL ASSEMBLY POINT:
PARTS CONTENT: 9%	PUEBLA, MEXICO
MAJOR SOURCES OF FOREIGN	COUNTRY OF ORIGIN:
PARTS CONTENT:	ENGINE: MEXICO
MEXICO: 40%	TRANSMISSION: JAPAN
GERMANY: 20%	

NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION OR OTHER NON-PARTS COSTS.

EPA Fuel Economy Estimates

These estimates reflect new EPA methods beginning with 2008 models.

CITY MPG

23

Expected range for most drivers
19 to 27 MPG

HIGHWAY MPG

29

Expected range for most drivers
24 to 34 MPG

Estimated
Annual Fuel Cost
\$1,800

based on 15,000 miles at \$3.00 per gallon

Combined Fuel Economy

This Vehicle

25

14 **25** 41
All Compact Cars

Your actual mileage will vary depending on how you drive and maintain your vehicle.



See the FREE Fuel Economy Guide at dealers or www.fueleconomy.gov



Volkswagen of America, Inc.

SOLD TO: 403128
GANLEY VOLKSWAGEN OF BEDFORD
250 BROADWAY AVENUE
BEDFORD, OH 44146

SHIP TO: 403128
GANLEY VOLKSWAGEN OF BEDFORD
250 BROADWAY AVENUE
BEDFORD, OH 44146

VIN: 3VW2K7AJ6BM355755
Port of Entry: HOUSTON
Transportation Method: TRUCK
COMM NUM: G02971

GOVERNMENT SAFETY RATINGS

Frontal	Driver	★★★★
Crash	Passenger	★★★★

Star ratings based on the risk of injury in a frontal impact. Frontal ratings should ONLY be compared to other vehicles of similar size and weight.

Side	Front Seat	★★★★★
Crash	Rear Seat	★★★★★

Star ratings based on the risk of injury in a side impact.

Rollover ★★★★★

Star ratings based on the risk of rollover in a single vehicle crash.

Star ratings range from 1 to 5 stars (★★★★★) with 5 being the highest.

Source: National Highway Traffic Safety Administration (NHTSA)

www.safercar.gov or 1-888-327-4236

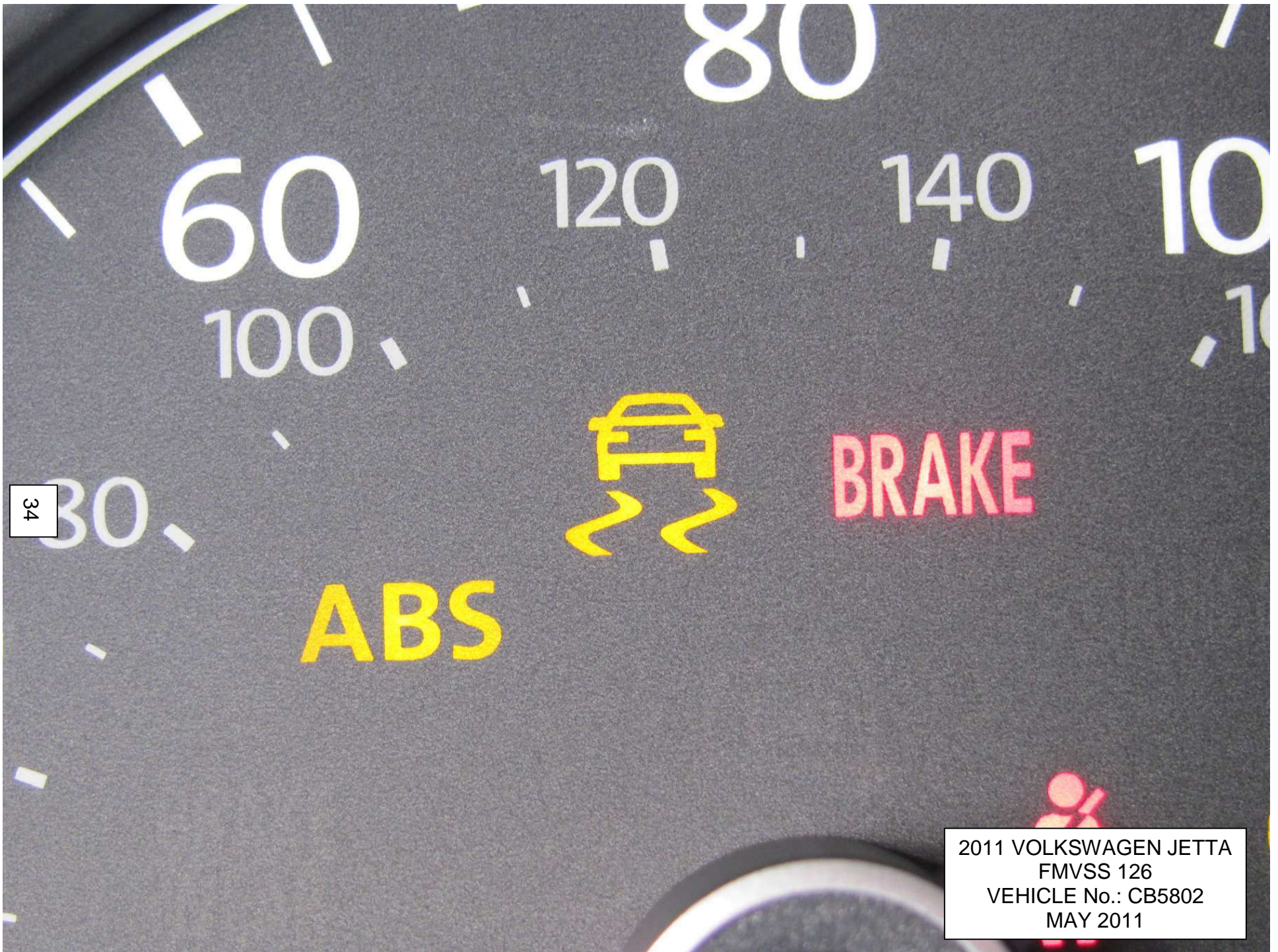
Who better to get you into a Volkswagen than us? **Volkswagen Credit**



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2011 VOLKSWAGEN JETTA
FMVSS 126
VEHICLE No.: CB5802
MAY 2011

5.5 WINDOW STICKER - MONRONEY LABEL



5.6 ESC MALFUNCTION TELLTALE



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2011 VOLKSWAGEN JETTA
FMVSS 126
VEHICLE No.: CB5802
MAY 2011

5.7 ¾ FRONT VIEW - TEST VEHICLE INSTRUMENTED



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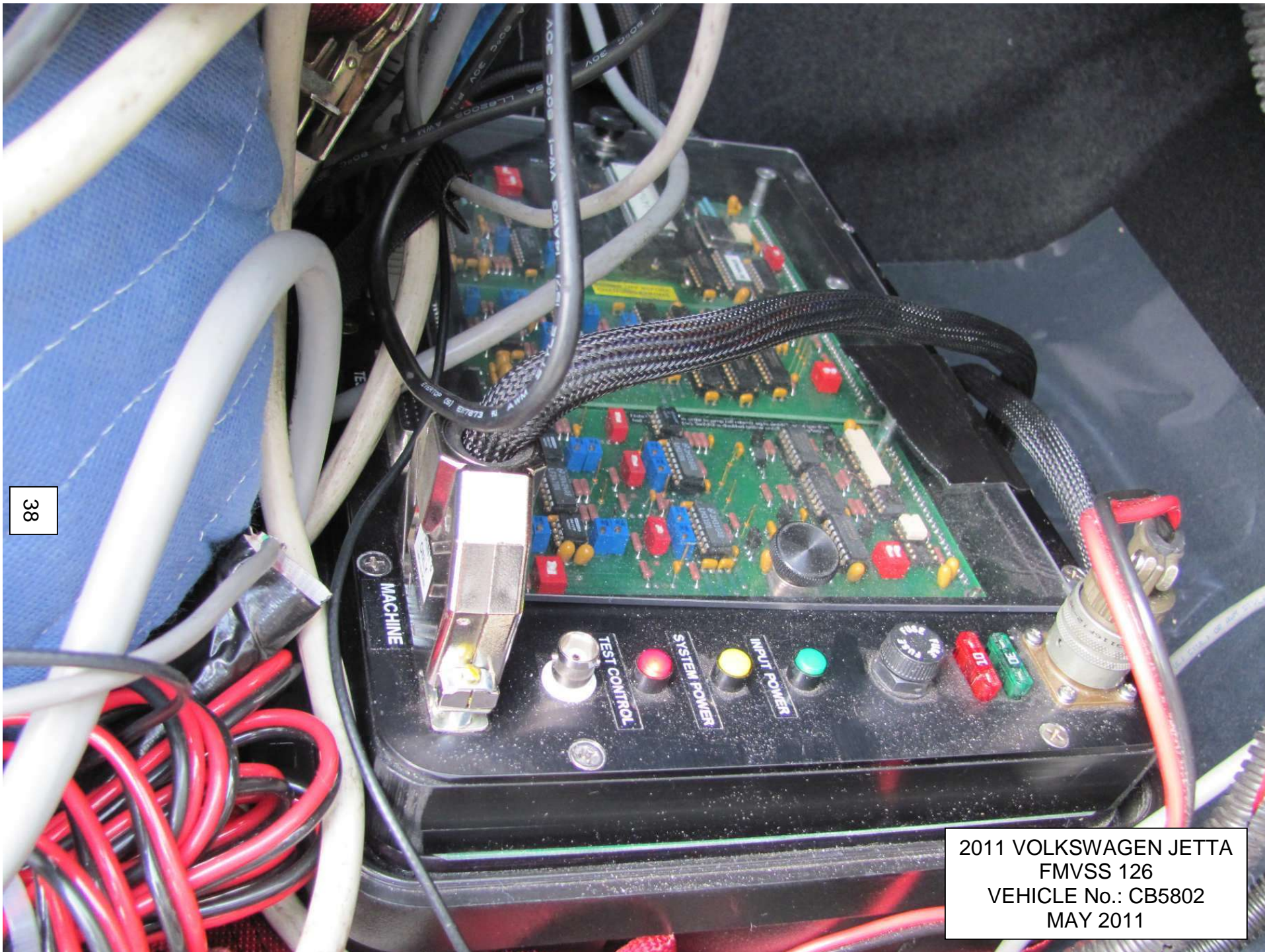
5.8 ¾ REAR VIEW - TEST VEHICLE INSTRUMENTED



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5.9 STEERING WHEEL CONTROLLER AND DATA ACQUISITION SYSTEM



5.10 STEERING CONTROLLER BATTERY BOX



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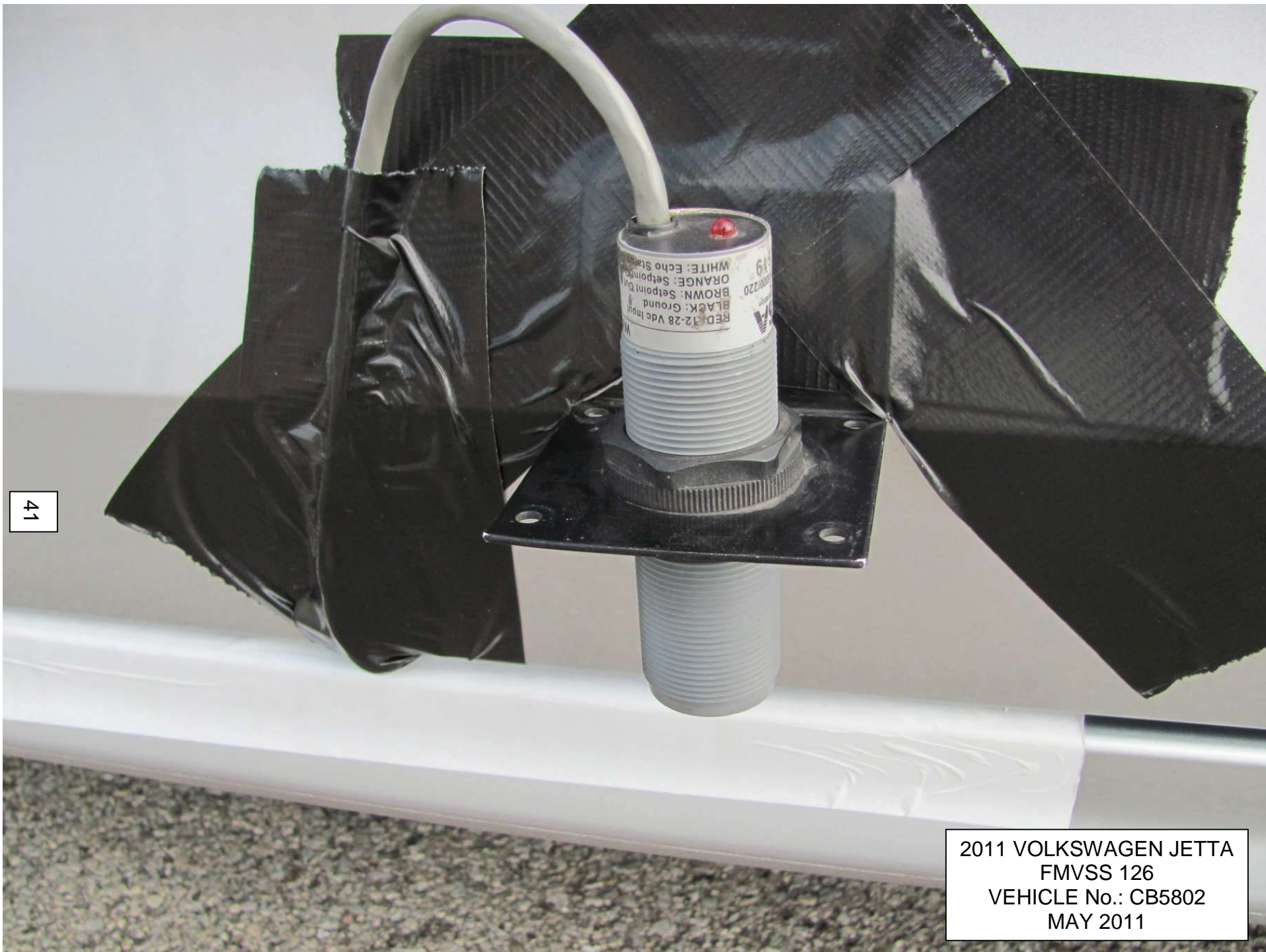
5.11 INERTIA MEASUREMENT UNIT



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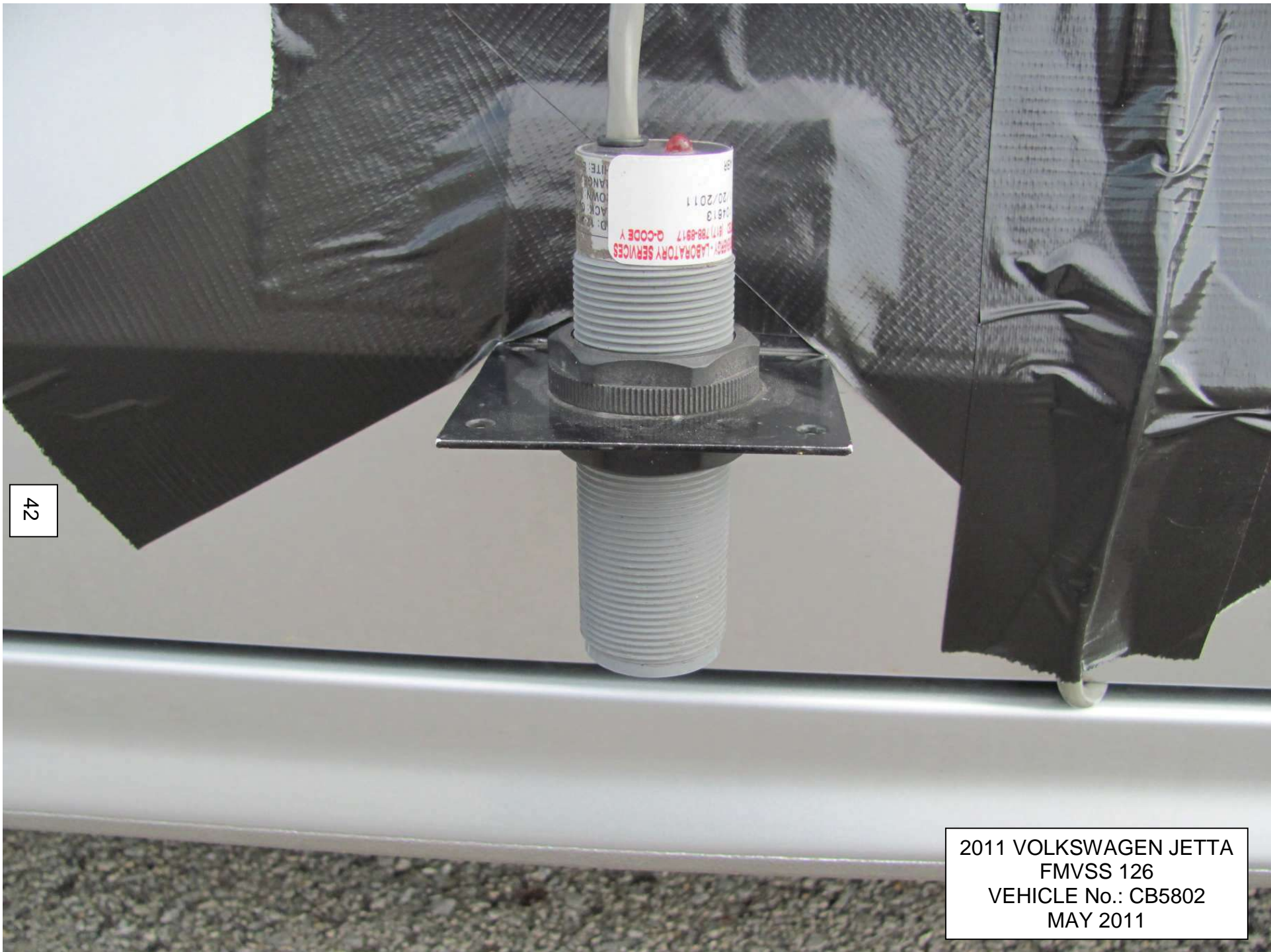
5.12 VEHICLE SPEED SENSOR



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5.13 BODY ROLL SENSOR (DRIVER SIDE)



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5.14 BODY ROLL SENSOR (PASSENGER SIDE)



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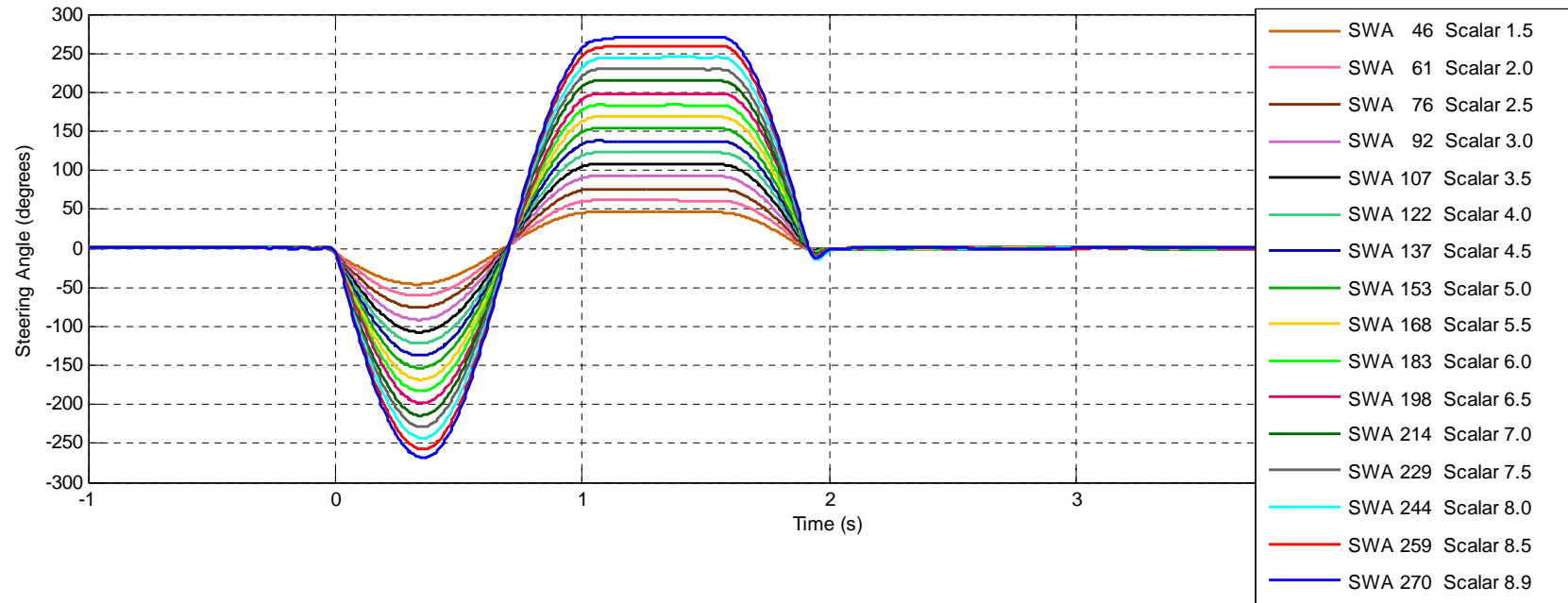
5.15 BRAKE PEDAL FORCE TRANSDUCER

6.0 DATA PLOTS

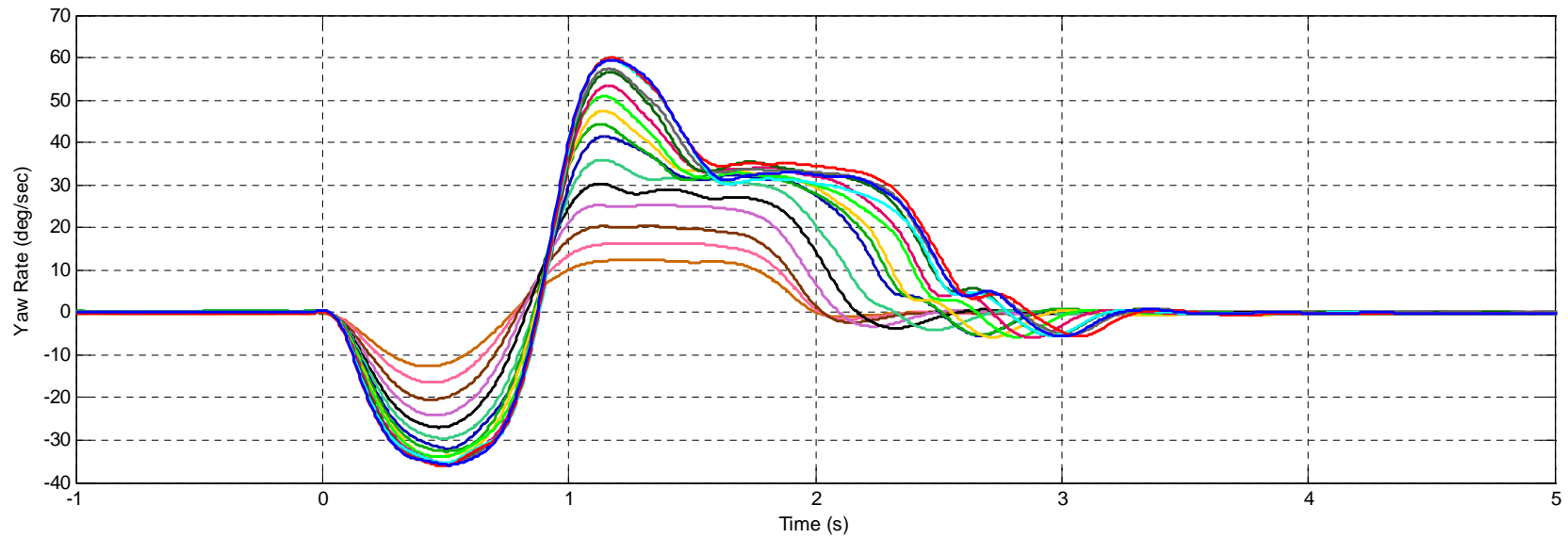
- Figure 1. Steering Angle and Yaw Rate Time History, Counter-Clockwise Initial Steer Tests
- Figure 2. Steering Angle, Lateral Acceleration, and Lateral Displacement Time History, Counter-Clockwise Initial Steer Tests
- Figure 3. Steering Angle and Yaw Rate Time History, Clockwise Initial Steer Tests
- Figure 4. Steering Angle, Lateral Acceleration, and Lateral Displacement Time History, Clockwise Initial Steer Tests

6.0 2011 VOLKSWAGEN JETTA DATA PLOTS

Figure 1. Steering Angle and Yaw Rate Time History, Counter-Clockwise Initial Steer Tests

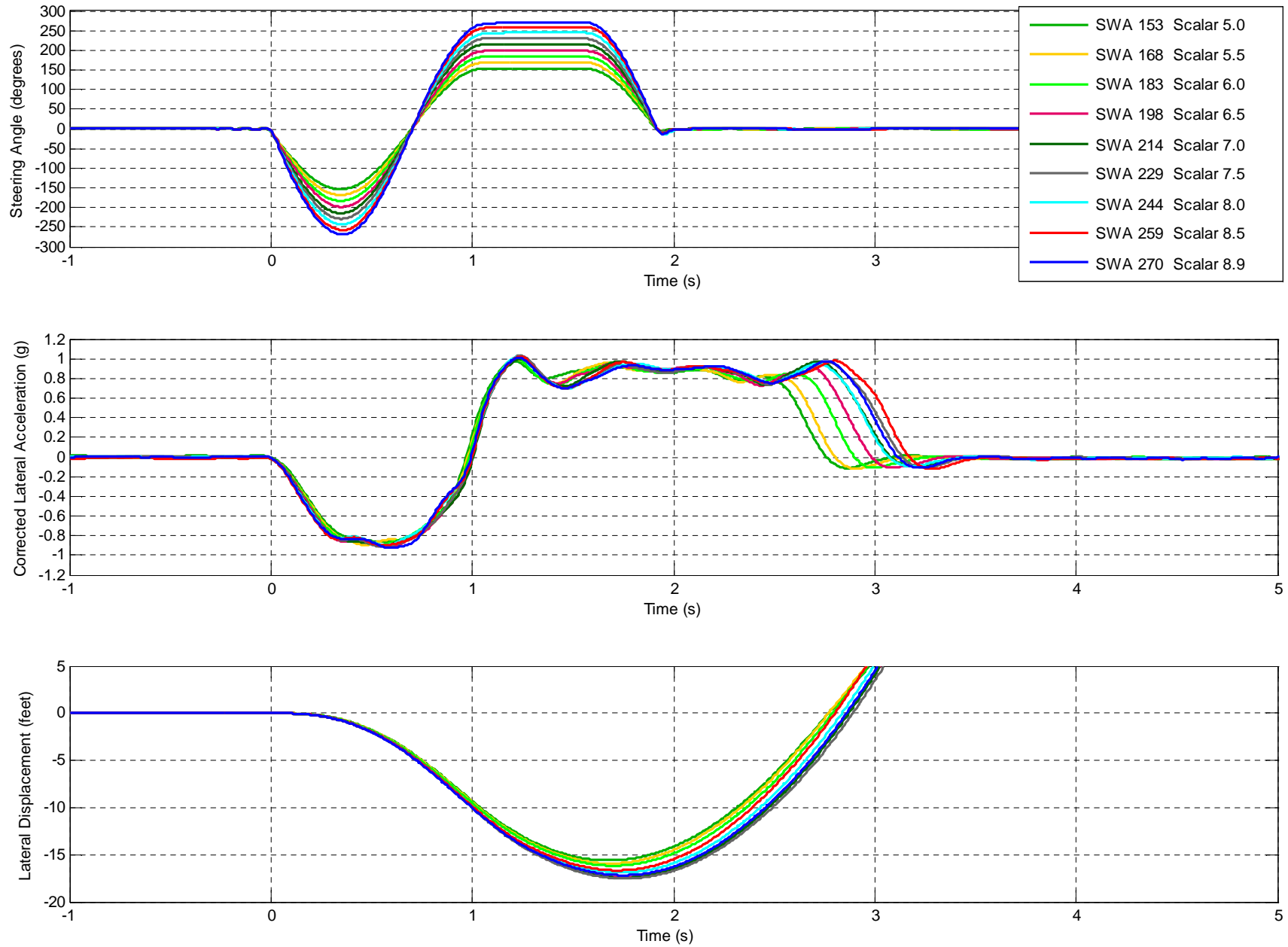


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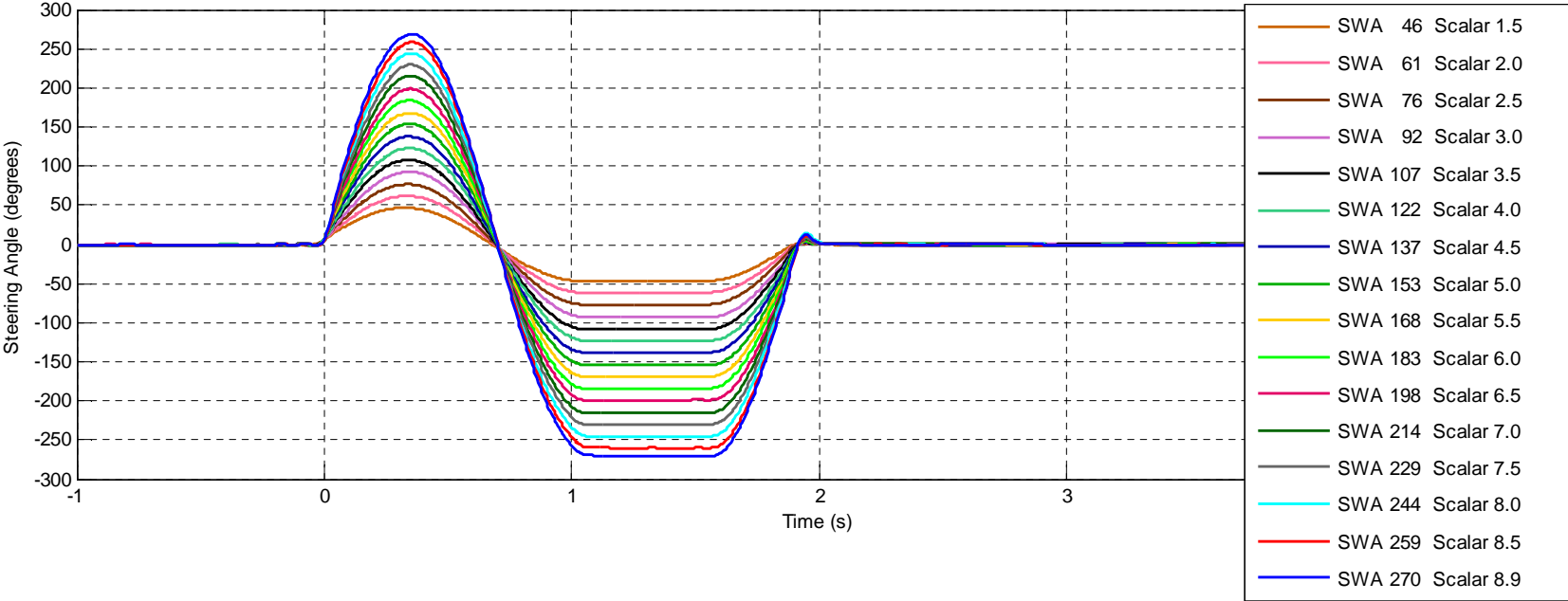
6.0 2011 VOLKSWAGEN JETTA DATA PLOTS...continued

Figure 2. Steering Angle, Lateral Acceleration, and Lateral Displacement Time History, Counter-Clockwise Initial Steer Tests

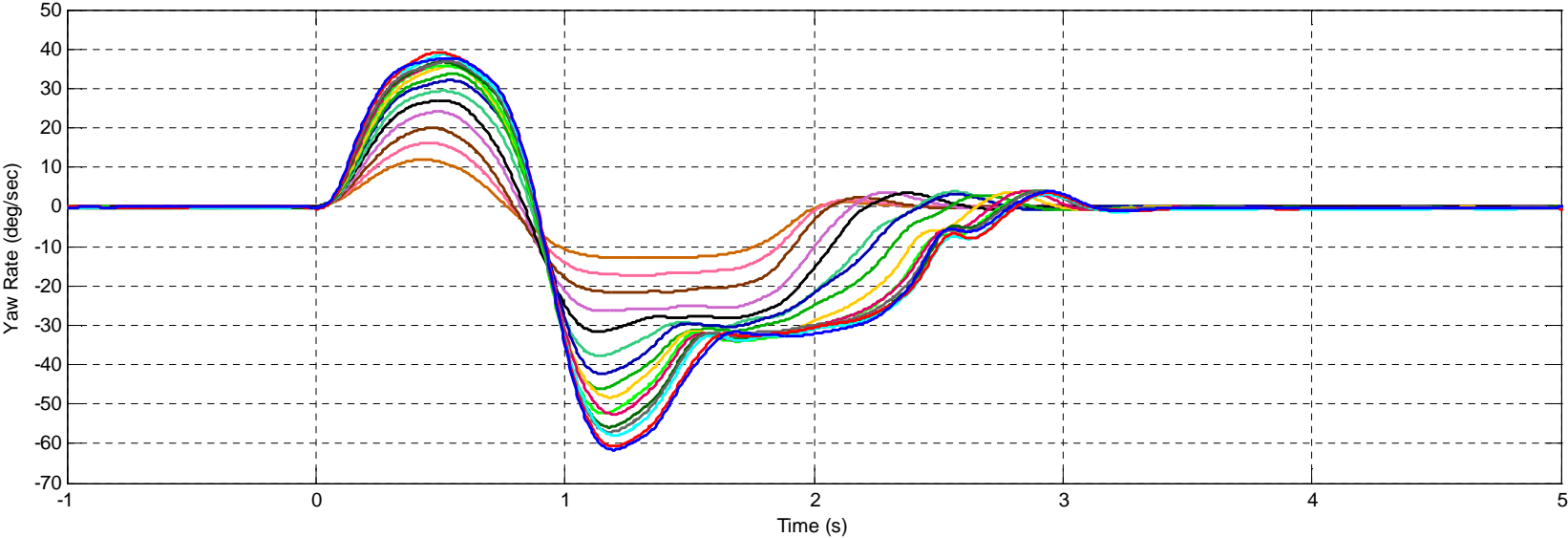


6.0 2011 VOLKSWAGEN JETTA DATA PLOTS...continued

Figure 3. Steering Angle and Yaw Rate Time History, Clockwise Initial Steer Tests

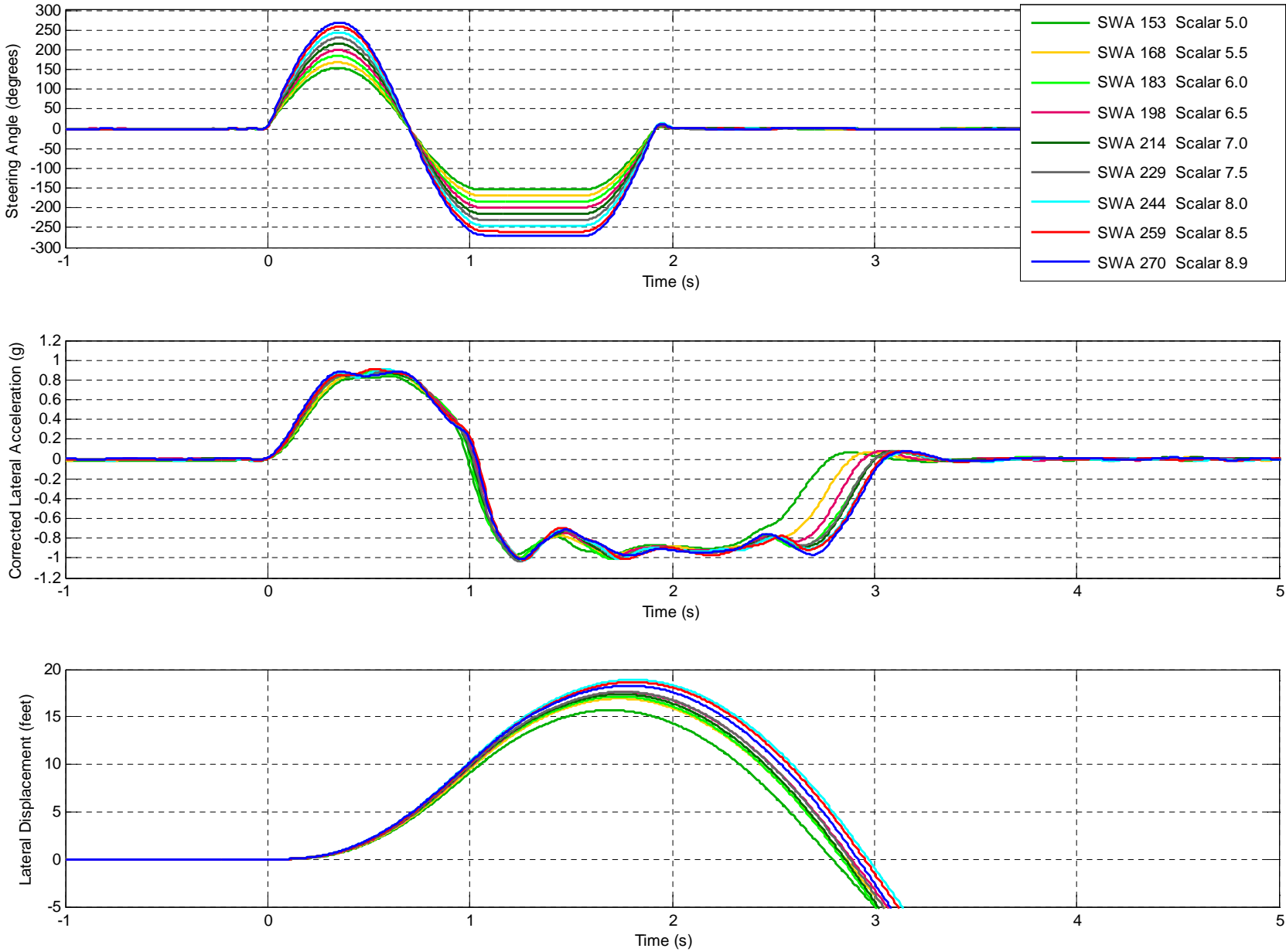


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6.0 2011 VOLKSWAGEN JETTA DATA PLOTS...continued

Figure 4. Steering Angle, Lateral Acceleration, and Lateral Displacement Time History, Clockwise Initial Steer Tests



7.0 OTHER DOCUMENTATION

- 7.1 OWNER'S MANUAL PAGES
- 7.2 VEHICLE ARRIVAL CONDITION REPORT
- 7.3 VEHICLE COMPLETION CONDITION REPORT
- 7.4 SINE WITH DWELL TEST RESULTS
- 7.5 SLOWLY INCREASING STEER TEST RESULTS
- 7.6 INERTIAL SENSING SYSTEM LOCATION COORDINATES

7.1 OWNER'S MANUAL PAGES

Braking, stopping, and parking

Introduction

In this section you'll find information on the following:

Warning and indicator lights	182
Parking brake	184
Parking	184
About the brakes	185
Braking assistance systems	187
Brake fluid	189


The braking support systems are the Anti-Lock Brake System (ABS), Brake Assist System (BAS), Electronic Differential Lock (EDL), Anti-Slip Regulation (ASR) and Electronic Stabilization Program (ESP).

More information:

- Trailer operation ⇒ page 147
- Starting assistance systems ⇒ page 197
- Tires and wheels ⇒ page 263
- Parts, accessories, repairs and modifications ⇒ page 290

WARNING

Driving with bad brakes or worn brake pads can cause a collision and serious personal injury.

- If the symbol **BRAKE WEAR** or  lights up in the instrument cluster display, whether alone or together with a text message, immediately contact an authorized Volkswagen dealer or authorized Volkswagen Service Facility to have the brake pads checked and, if necessary, replaced.

WARNING

Parking improperly can cause serious personal injury.

- Never remove the key from the ignition switch while the vehicle is moving or rolling to a stop. The steering wheel will lock and you will not be able to steer or control the vehicle.

WARNING (continued)

- Never park the vehicle where the hot exhaust system or catalytic converter could ignite flammable materials, such as brush, leaves, dry grass, spilled fuel, etc.
- Always apply the parking brake when parking your vehicle. Improper use of the parking brake can seriously injure you and your passengers.
- Never use the parking brake to slow down the vehicle when it is moving, except in an emergency. The stopping distance is much longer because only the rear wheels are braked. Always use the foot brake to stop the vehicle.
- Never activate the throttle manually from the engine compartment when the engine is running and the automatic transmission is in gear. The vehicle will start to move as soon as the engine speed increases even if the parking brake is on.
- Never leave children or anyone who cannot help themselves behind in the vehicle. They could release the parking brake and move the gear selector lever or gear shift, which could cause the vehicle to start moving. This can lead to a crash and serious personal injuries.
- Always take the key with you when you leave the vehicle. The engine can be started and vehicle systems such as the power windows can be operated, leading to serious personal injury.
- Never leave children, disabled persons, or anyone who cannot help themselves in the vehicle. The doors can be locked with the remote control key. This could result in people being trapped in the vehicle in an emergency. For example, depending on the time of year, people trapped in the vehicle can be exposed to very high or very low temperatures.
- Heat build-up in the passenger and luggage compartment of a parked vehicle can result in temperatures in the vehicle that are much higher than the outside temperatures, particularly in summer. Temperatures can quickly reach levels that can cause unconsciousness and death, particularly to small children.

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Note

- Always be careful when you park in areas with parking barriers or high curbs. These vary in height and could damage your bumper and related parts if the front of your vehicle hits a barrier or curb that is too high while you are getting into or out of a parking spot. To help prevent damage, stop before the tires of your vehicle touch a parking barrier or curb.

Note (continued)

- Always be careful when you enter a driveway or drive up or down steep ramps or over curbs or other obstacles. Parts of the vehicle close to the ground may be damaged (such as bumper covers, spoilers, and parts of the engine, suspension, and exhaust systems).

Warning and indicator lights








Please first read and note the introductory information and heed the WARNINGS on page 181.

Lights up	Possible cause or meaning	Proper response
/ BRAKE	Parking brake engaged.	⇒ page 184.
	Brake system malfunction.	Stop! Contact an Authorized Volkswagen dealer or authorized Volkswagen Service Facility without delay ⇒ page 185.
	Brake fluid level too low.	Stop! Check brake fluid level ⇒ page 189.
	Together with ABS indicator light or ABS : ABS failure.	Take the vehicle to an authorized Volkswagen dealer or authorized Volkswagen Service Facility. The vehicle brakes will work without ABS.
	Brake pedal not depressed	Depress the brake pedal.
BRAKE WEAR	Front brake pads worn.	Immediately take the vehicle to an authorized Volkswagen dealer or authorized Volkswagen Service Facility. Check, and if necessary replace, all brake pads.
	ESP switched off for system reasons.	Switch ignition off and on again. You may have to drive a short distance.
	ESP malfunction.	Take the vehicle to an authorized Volkswagen dealer or authorized Volkswagen Service Facility.
	Together with ABS indicator light or ABS : ABS malfunction.	Take the vehicle to an authorized Volkswagen dealer or authorized Volkswagen Service Facility. The vehicle brakes will work without ABS.
	Vehicle battery has been reconnected.	⇒ page 244.

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7.1 OWNER'S MANUAL PAGES

Lights up	Possible cause or meaning ⇒ ⚠	Proper response
	Together with EPS indicator light  : ABS malfunction.	Take the vehicle to an authorized Volkswagen dealer or authorized Volkswagen Service Facility. The vehicle brakes will work without ABS.
	Together with warning light  or BRAKE: ABS failure.	
	Brake pedal not depressed.	Depress the brake pedal to select a gear or drive position.

Flashes	Possible cause	Proper response
	ESP or ASR is operating.	Take foot off accelerator pedal. Adapt driving to road conditions.

When the ignition is switched on, several warning and indicator lights come on briefly for a function check. They go out after a few seconds.


⚠ WARNING

Failure to heed warning lights and instrument cluster text messages can cause the vehicle to break down in traffic and result in a collision and serious personal injury.





- Never ignore warning lights or text WARNINGS.
- Always stop the vehicle as soon as it is safe to do so.

⚠ WARNING

Driving with bad brakes can cause a collision and serious personal injury.

- If the brake warning light **BRAKE** or  does not go out, or comes on when driving, either the brake fluid level in the reservoir is too low or there is a fault in the brake system. Stop the vehicle as soon as you can do so safely and get expert assistance ⇒ page 189, *Brake fluid*.

⚠ WARNING (continued)

- If the brake warning light **BRAKE** or  comes on at the same time as the ABS warning light **ABS** or , the ABS may not be working properly. This could cause the rear wheels to lock up relatively quickly during braking. Rear wheel brake lock-up can cause loss of vehicle control. If you believe that it is safe to do so, reduce your speed and drive carefully and at low speeds to the nearest authorized Volkswagen dealer or a qualified workshop and have the brake system inspected. Avoid sudden hard braking and steering.
- If the ABS indicator light **ABS** or  does not go out, or if it comes on while driving, the ABS system is not working properly. The vehicle can then be stopped only with the standard brakes (without ABS). You will not have the protection ABS provides. Contact your authorized Volkswagen dealer or an authorized Volkswagen Service Facility as soon as possible.
- If the symbol **BRAKE WEAR** or  lights up in the instrument cluster display, whether alone or together with a text message, immediately contact an authorized Volkswagen dealer or authorized Volkswagen Service Facility to have the brake pads checked and, if necessary, replaced.

! Note

Failure to heed warning lights or text WARNINGS can result in vehicle damage. ◀

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7.2 VEHICLE ARRIVAL CONDITION REPORT

CONTRACT NO. DTNH22-08-D-00097 DATE: 5/09/11

FROM: Automotive Allies

TO: TRC

PURPOSE: (X) Initial Receipt () Received via Transfer () Present vehicle condition

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2011 / Volkswagen / Jetta / Passenger Car

MANUFACTURE DATE: 02/11 NHTSA NO.: CB5802

BODY COLOR: Silver VIN: 3VW2K7AJ6BM355755

ODOMETER READING: 18 miles GVWR: 1,850 KG

PURCHASE PRICE: \$ rented / leased DEALER'S NAME: Automotive Allies, 209 W. Alameda Avenue, Suite 101, Burbank, CA 91502

X ALL OPTIONS LISTED ON "WINDOW STICKER" ARE PRESENT ON THE TEST VEHICLE

X TIRES AND WHEEL RIMS ARE NEW AND THE SAME AS LISTED

X THERE ARE NO DENTS OR OTHER INTERIOR OR EXTERIOR FLAWS

X THE VEHICLE HAS BEEN PROPERLY PREPARED AND IS IN RUNNING CONDITION

X THE GLOVE BOX CONTAINS AN OWNER'S MANUAL, WARRANTY DOCUMENT, CONSUMER INFORMATION, AND EXTRA SET OF KEYS

X PROPER FUEL FILLER CAP IS SUPPLIED ON THE TEST VEHICLE

X PLACE VEHICLE IN STORAGE AREA

X INSPECT THE VEHICLE'S INTERIOR AND EXTERIOR, INCLUDING ALL WINDOWS, SEATS, DOORS, ETC., TO CONFIRM THAT EACH SYSTEM IS COMPLETE AND FUNCTIONAL PER THE MANUFACTURER'S SPECIFICATIONS. ANY DAMAGE, MISADJUSTMENT, OR OTHER UNUSUAL CONDITION THAT COULD INFLUENCE THE TEST PROGRAM OR TEST RESULTS SHALL BE RECORDED. REPORT ANY ABNORMAL CONDITION TO THE NHTSA COTR BEFORE BEGINNING ANY TEST

RECORDED BY: Alan Ida

DATE: 5-09-11

APPROVED BY: Ken Webster

DATE: 5-17-11

7.3 VEHICLE COMPLETION CONDITION REPORT

CONTRACT NO. DTNH22-08-D-00097 DATE: 5/16/11

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2011 / Volkswagen / Jetta / Passenger Car

MANUFACTURE DATE: 02/11 NHTSA NO.: CB5802

BODY COLOR: Silver VIN: 3VW2K7AJ6BM355755

ODOMETER READING: 102 miles GVWR: 1,850 KG

LIST OF FMVSS TESTS PERFORMED BY THIS LAB: 126, 135

- THERE ARE NO DENTS OR OTHER INTERIOR OR EXTERIOR FLAWS
- THE VEHICLE HAS BEEN PROPERLY MAINTAINED AND IS IN RUNNING CONDITION
- THE GLOVE BOX CONTAINS AN OWNER'S MANUAL, WARRANTY DOCUMENT, CONSUMER INFORMATION, AND EXTRA SET OF KEYS
- PROPER FUEL FILLER CAP IS SUPPLIED ON THE TEST VEHICLE

REMARKS:

Equipment that is no longer on the test vehicle as noted on Vehicle Arrival Condition Report:

None.

Explanation for equipment removal:

N/A

Test Vehicle Condition:

Like new.

RECORDED BY: Alan Ida

DATE: 5-16-11

APPROVED BY: Ken Webster

DATE: 5-17-11

7.4 SINE WITH DWELL TEST RESULTS
2011 Volkswagen Jetta
NHTSA No.: CB5802

Date Created 13-May-11

LEFT-TO-RIGHT (INITIAL COUNTER-CLOCKWISE STEER)

File	SWA @ 5deg Ct	MES	Time@5deg	COS	Time@COS	MOS	Time@MOS	YRR1(%)	YR1 (deg/sec)	YRR1 Ct	YRR175(%)	YR175 (deg/sec)
0024	618	50.214	3.084	999	4.989	755	3.768	1.159	0.145	1199	-0.141	-0.018
0025	616	50.364	3.075	999	4.986	755	3.766	-1.099	-0.178	1199	-0.869	-0.141
0027	617	50.204	3.075	999	4.990	756	3.770	-0.056	-0.011	1199	0.074	0.015
0028	616	50.452	3.070	999	4.988	755	3.768	-0.241	-0.061	1199	-0.060	-0.015
0029	616	50.185	3.071	1000	4.990	756	3.770	-0.331	-0.100	1200	0.259	0.078
0030	615	50.220	3.066	999	4.987	755	3.768	0.170	0.061	1199	-0.635	-0.228
0031	615	50.367	3.066	999	4.987	755	3.768	0.163	0.067	1199	-0.857	-0.355
0032	615	50.403	3.066	999	4.987	755	3.768	0.063	0.028	1199	-0.714	-0.315
0033	614	50.346	3.062	998	4.984	755	3.765	-1.203	-0.572	1198	-0.444	-0.211
0034	614	50.177	3.062	998	4.983	755	3.765	-6.807	-3.460	1198	-0.402	-0.204
0035	614	50.236	3.065	999	4.986	755	3.768	-10.343	-5.524	1199	-0.568	-0.303
0036	615	50.559	3.065	999	4.986	755	3.769	-8.832	-4.995	1199	-0.206	-0.116
0037	615	50.212	3.066	999	4.986	755	3.770	-5.788	-3.318	1199	-0.662	-0.379
0038	614	50.116	3.064	998	4.982	755	3.767	-8.578	-5.109	1198	-0.581	-0.346
0039	614	50.201	3.064	998	4.983	755	3.767	-2.654	-1.597	1198	-0.375	-0.226
0040	614	50.208	3.065	998	4.983	755	3.768	-7.201	-4.275	1198	-0.700	-0.416

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RIGHT-TO-LEFT (INITIAL CLOCKWISE STEER)

0041	619	50.128	3.086	1000	4.991	756	3.770	-0.312	0.041	1200	-0.463	0.060
0042	617	50.122	3.078	999	4.989	755	3.769	0.529	-0.094	1199	0.763	-0.136
0043	616	50.281	3.071	999	4.987	755	3.767	-0.494	0.107	1199	-0.730	0.158
0044	615	50.332	3.070	999	4.988	755	3.768	-0.655	0.174	1199	0.014	-0.004
0045	615	50.346	3.066	999	4.985	755	3.766	0.473	-0.150	1199	0.280	-0.089
0046	614	50.687	3.064	998	4.984	755	3.765	1.527	-0.574	1198	0.337	-0.127
0047	615	50.093	3.066	999	4.987	755	3.768	1.135	-0.479	1199	0.155	-0.065
0048	614	50.385	3.062	998	4.984	755	3.765	0.272	-0.125	1198	0.055	-0.025
0049	614	50.388	3.062	998	4.983	755	3.766	-3.142	1.511	1198	-0.028	0.013
0050	614	50.501	3.061	998	4.983	755	3.765	-7.665	4.009	1198	-0.291	0.152
0051	614	50.227	3.063	998	4.985	755	3.768	-5.614	2.950	1198	0.429	-0.225
0052	614	50.220	3.063	998	4.983	755	3.767	-7.431	4.145	1198	0.154	-0.086
0053	614	50.208	3.063	998	4.983	755	3.767	-6.859	3.908	1198	-0.150	0.085
0054	614	50.186	3.062	998	4.980	755	3.766	-5.452	3.147	1198	0.517	-0.298
0055	614	50.365	3.064	998	4.983	755	3.768	-5.585	3.393	1198	0.284	-0.173
0056	614	50.479	3.062	998	4.981	755	3.766	-5.776	3.562	1198	0.319	-0.197

7.4 SINE WITH DWELL TEST RESULTS
2011 Volkswagen Jetta
NHTSA No.: CB5802

Date Created 13-May-11

LEFT-TO-RIGHT (INITIAL COUNTER-CLOCKWISE STEER)

File	YRR175 Ct	2nd Yaw Peak(deg/sec)	2nd Yaw Peak Ct	Lat Disp (ft)	Lat. Acc. 1.07s (g)	1st SWA Peak(deg)	1st SWA Peak Ct	2nd SWA Mean(deg)
0024	1349	12.472	876	-4.113	0.376	46.074	684	46.144
0025	1349	16.232	873	-5.339	0.468	61.001	683	61.108
0027	1349	20.400	845	-6.591	0.538	76.013	684	76.079
0028	1349	25.271	840	-7.742	0.603	91.878	684	92.156
0029	1350	30.267	841	-8.702	0.628	107.210	684	107.449
0030	1349	35.862	842	-9.463	0.617	122.262	684	122.404
0031	1349	41.381	844	-10.079	0.613	137.344	684	137.394
0032	1349	44.062	841	-10.442	0.660	153.417	684	153.355
0033	1348	47.583	842	-10.602	0.656	168.341	683	168.390
0034	1348	50.831	843	-10.704	0.669	183.308	683	183.344
0035	1349	53.408	846	-11.218	0.641	198.262	684	198.370
0036	1349	56.550	848	-11.156	0.621	214.422	684	214.605
0037	1349	57.324	848	-11.264	0.638	229.096	685	229.534
0038	1348	59.551	848	-11.108	0.652	243.559	685	244.567
0039	1348	60.165	849	-11.098	0.685	257.917	685	259.489
0040	1348	59.366	849	-11.298	0.698	268.076	686	270.466

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RIGHT-TO-LEFT (INITIAL CLOCKWISE STEER)

0041	1350	-12.973	876	3.748	-0.374	46.707	684	46.557
0042	1349	-17.753	877	5.025	-0.474	61.758	684	61.468
0043	1349	-21.699	864	6.279	-0.539	76.693	684	76.569
0044	1349	-26.521	847	7.510	-0.574	92.659	684	92.515
0045	1349	-31.780	842	8.402	-0.602	107.914	683	107.897
0046	1348	-37.602	842	9.400	-0.607	122.905	683	122.885
0047	1349	-42.208	845	9.937	-0.530	137.955	684	137.909
0048	1348	-45.878	843	10.275	-0.589	153.933	683	153.934
0049	1348	-48.096	850	10.713	-0.554	167.559	683	168.909
0050	1348	-52.301	845	10.920	-0.615	183.856	683	183.933
0051	1348	-52.545	853	11.007	-0.492	198.837	684	198.923
0052	1348	-55.774	849	11.106	-0.596	215.000	684	215.158
0053	1348	-56.974	850	11.186	-0.578	229.755	684	230.154
0054	1348	-57.734	854	11.570	-0.425	244.199	685	245.075
0055	1348	-60.758	854	11.445	-0.420	258.354	685	260.004
0056	1348	-61.674	853	11.458	-0.478	268.486	685	270.991

7.5 SLOWLY INCREASING STEER TEST RESULTS

2011 Volkswagen Jetta

NHTSA No.: CB5802

Date Created

13-May-11

File	Vehicle	EventPt	DOS	MES [mph]	Mean SPD [mph]	AYcount_3	THETAENCF_3 [degree]	AYCG_CD2_3 [g]	r_squared
0009	2011 Volkswagen Jetta	703	1	49.662	49.638	1147	-29.965	-0.304	0.998
0011	2011 Volkswagen Jetta	696	1	50.424	49.875	1144	-29.811	-0.306	0.998
0012	2011 Volkswagen Jetta	704	1	50.278	49.957	1143	-29.734	-0.303	0.999
0015	2011 Volkswagen Jetta	702	0	50.426	50.041	1166	31.674	0.300	0.998
0016	2011 Volkswagen Jetta	702	0	50.022	50.234	1150	30.542	0.305	0.998
0017	2011 Volkswagen Jetta	696	0	49.976	49.603	1157	31.058	0.303	0.998
Averages							30.5	0.304	

Scalars	Steering Angles (deg)
1.5	46
2	61
2.5	76
3	92
3.5	107
4	122
4.5	137
5	153
5.5	168
6	183
6.5	198
7	214
7.5	229
8	244
8.5	259
8.9	270

7.6 INERTIA SENSOR MEASUREMENTS

2011 Volkswagen Jetta

NHTSA No.: CB5802

Device : U12-05-08-07108
 device version : 2.24
 device certification date : 07/30/10
 today is : 5/13/2011
 units : Millimeters

Label	ActualX	ActualY	ActualZ
C_DEVICEPOS001			
M_PLANE001	1157.835	-763.403	-300.580
M_LINE001	472.056	110.544	-120.430
M_ORIGIN_FRT_AXLE_CENTER	0.000	0.000	0.000
C_COORDSYS001	0.000	0.000	0.000
M_TIRE_TREAD_CENTER	230.026	77.606	-206.529
M_INERTIA_PACK	1568.353	838.497	423.212
M_ROOF	1885.988	838.924	1141.836
M_GROUND	1886.469	59.640	-298.495

Track Width 1533.525

Roof Height (relative to ground) 1440.331

Motion Pak - x-distance (mm) 1568.353
Motion Pak - y-distance (mm) -5.872
Motion Pak - z-distance (mm) 677.257

Motion Pak - x-distance (inches) 61.746
Motion Pak - y-distance (inches) -0.231
Motion Pak - z-distance (inches) 26.664

x-distance (longitudinal) Point of reference is the front axle centerline.
 (Positive from front axle toward rear of vehicle.)

y-distance (lateral) Point of reference is the vehicle centerline.
 (Positive from the center toward the right.)

z-distance (vertical) Point of reference is the ground plane.
 (Positive from the ground up.)