126-TRC-07-003

SAFETY COMPLIANCE TESTING FOR FMVSS 126 (Indicant)
Electronic Stability Control Systems

General Motors
2007 Chevrolet Avalanche
NHTSA No. C70118

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

December 10, 2007

FINAL REPORT

Prepared Under Contract No.: DTNH22-07-P-00332

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. DTNH22-07-P-00332.

Prepared By: _____

Approved By: _____

Approval Date: 12/10/07

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: _____

Acceptance Date: 12/14/07

1. Report No. 126-TRC-07-003	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Final Report of FMVSS 126 (Indicant) Compliance Testing of 2007 Chevrolet Avalanche multipurpose passenger vehicle, NHTSA No. C70118		5. Report Date December 10, 2007 6. Performing Organization Code TRC 20070164 / 2000	
7. Author(s) Alan Ida, Project Engineer Jeff Sankey, Manager, DDO Project Operations		8. Performing Organization Report No. TRC-DOT-126-003	
9. Performing Organization Name and Address Transportation Research Center Inc. 10820 State Route 347 East Liberty, OH 43319		10. Work Unit No. 11. Contract or Grant No. DTNH22-07-P-00332	
12. Sponsoring Agency Name and Address 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, D.C. 20590		13. Type of Report and Period Covered Final test report August 20 to December 10, 2007 14. Sponsoring Agency Code NVS-220	
15. Supplementary Notes This test is classified as an "Indicant" test because manufacturers are not required to certify vehicles to FMVSS 126 until on or after September 1, 2008.			
16. Abstract A test was conducted on a 2007 Chevrolet Avalanche, NHTSA No. C70118, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-126-00 for the determination of FMVSS 126 compliance. Test failures identified were as follows: None			
17. Key Words Compliance Testing Safety Engineering FMVSS 126		18. Distribution Statement Copies of this report are available from: NHTSA Technical Information Services (TIS) (NPO 411) 1200 New Jersey Avenue, SE Washington, D.C. 20590 Email: tis@nhtsa.dot.gov FAX: (202) 493-2833	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 59	22.

TABLE OF CONTENTS

1.0 PURPOSE OF COMPLIANCE TEST

The purpose of this test is to determine if the test vehicle, an MY 2007 Chevrolet Avalanche meets the minimum equipment and performance requirements stated in Federal Motor Vehicle Safety Standard (FMVSS) 126, "Electronic Stability Control Systems."

This test is considered an "Indicant" Test because manufacturers are not required to certify vehicles to FMVSS 126 until on or after September 1, 2008.

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 2007 Chevrolet Avalanche was conducted at Transportation Research Center Inc. (TRC Inc.) in accordance with NHTSA TP-126-00, dated April 6, 2007.

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

- Augments vehicle directional stability by applying and adjusting the 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 15km/h (9.3mph) or when being driven in reverse).

The vehicle was subjected to a 0.7Hz sine with dwell 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: Chevrolet / Avalanche / MPV

VEHICLE NHTSA NO.: C70118 VIN: 3GNFK12307G113557

VEHICLE TYPE: MPV DATE OF MANUFACTURE: 05/06

LABORATORY: Transportation Research Center, Inc.

REQUIREMENTS	PASS/FAIL
ESC Equipment and Operational Characteristics (Data Sheet 2)	
The vehicle is be equipped with an ESC System that meets the equipment and operational characteristics requirements. (S126, S5.1, S5.6)	PASS
ESC Malfunction Telltale – Location, Labeling and Bulb Check (Data Sheet 3)	
Telltale meets the requirements for mounting, symbol or text, color and check of lamp function. (S126, S5.3.1*, S5.3.2*, S5.3.4* and S5.3.5, S5.3.6)	SEE REMARKS
"ESC Off" and other System Controls and Telltale* (Data Sheet 3)	
If provided, ESC OFF telltale meets the requirements for mounting, symbol or abbreviation, color and check of lamp function. (S126, S5.5.1, S5.5.2*, S5.5.3*, S5.5.6*, S5.5.7, and S5.5.8)	SEE REMARKS
If provided, dedicated off control meets the label requirements (S126, S5.4.2*)	SEE REMARKS
If provided, off control and other system controls meets the operational requirements (S126, S5.4, S5.4.1, S5.4.3*, S5.5.4, and S5.5.9)	PASS
Vehicle Lateral Stability (Data Sheet 7)	
Yaw Rate Ratio at 1 second after COS is less than 35% of peak value. (S126, S5.2.1)	PASS
Yaw Rate Ratio at 1.75 seconds after COS is less than 20% of peak value. (S126, S5.2.2)	PASS

2.0 TEST PROCEDURE AND DISCUSSION OF RESULTS …continued

DATA SUMMARY SHEET (2 of 2)

REQUIREMENTS	PASS/FAIL
Vehicle Responsiveness (Data Sheet 7)	
Lateral displacement at 1.07 seconds after BOS is at least 1.83 m (6 feet) for vehicles with a GVWR of 3,500kg (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)	PASS
ESC Malfunction Warning (Data Sheet 8)	
Warning is provided to driver after malfunction occurrence. (S126. S5.3.3*)	PASS
Malfunction telltale stayed illuminated as long as malfunction existed and must extinguished after malfunction was corrected. (S126, S5.3.3*, S5.3.7)	PASS

*Requirements effective on and after September 1, 2011.

REMARKS:

ESC System malfunction and off telltales and controls do not have to meet the requirements of FMVSS No. 126 until on or after September 1, 2011.

3.0 TEST DATA

DATA SHEET 1
TEST VEHICLE INSPECTION AND TEST PREPARATION

VEHICLE MAKE/MODEL/BODY STYLE: Chevrolet / Avalanche / MPV

NHTSA No.: C70118 TEST DATE: 8-20-07

VIN: 3GNFK12307G113557 MANUFACTURE DATE: 05/06

GVWR: 3266 KG FRONT GAWR: 1724 KG REAR GAWR 1860 KG

SEATING POSITIONS: FRONT 3 MID N/A REAR 3

ODOMETER READING AT START OF TEST: 72 (45) Kilometers (Miles)

DESIGNATED TIRE SIZE(S) FROM VEHICLE LABELING:
Front Axle P265 / 70R 17 S Rear Axle P265 / 70R 17 S

INSTALLED TIRE SIZE(S) ON VEHICLE:

From Tire Sidewall	Front Axle	Rear Axle
Manufacturer and Model	Goodyear Wrangler HP	Goodyear Wrangler HP
Tire Size Designation	P265 / 70R 17 S113	P265 / 70R17 S113

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

DRIVETRAIN CONFIGURATION:
____ Front Wheel Drive (FWD) ____ Rear Wheel Drive (RWD)
X Four Wheel Drive (4WD) ____ All Wheel Drive (AWD)

VEHICLE STABILITY SYSTEMS (Check applicable technologies):
X ESC X Traction Control X Roll Stability Control
____ Active Suspension X Electronic Throttle Control ____ Active Steering
X ABS
List other systems; ____

REMARKS:

RECORDED BY: Jason Church DATE: 8-20-07
APPROVED BY: Jeff Sankey DATE: 10-22-07

3.0 TEST DATA….continued

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

VEHICLE MAKE/MODEL/BODY STYLE: Chevrolet / Avalanche / MPV

NHTSA No.: C70118 TEST DATE: 8-20-07

ESC SYSTEM IDENTIFICATION:
Manufacturer/Model Bosch ESC System 8.0

ESC SYSTEM HARDWARE (Check applicable hardware):

X Electronic Control Unit	X Hydraulic Control Unit
X Wheel Speed Sensors	X Steering Angle Sensor
X Yaw Rate Sensor	X Lateral Acceleration Sensor

List other components; _____

ESC SYSTEM OPERATIONAL CHARACTERISTICS:

System is capable of generating brake torques at each wheel X Yes (PASS)
_____ No (FAIL)
List and describe component(s): Electronic Brake Control Module

System is capable of determining yaw rate X Yes (PASS)
_____ No (FAIL)
List and describe component(s): Yaw Rate Sensor

System is capable of monitoring driver steering input X Yes (PASS)
_____ No (FAIL)
List and describe component(s): Steering Wheel Angle Sensor

System is capable of estimating side slip or side slip derivation X Yes (PASS)
_____ No (FAIL)
List and describe component(s): Steering Wheel Angle Sensor
Yaw Rate Sensor
Lateral Acceleration Sensor

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. __X__ Yes (PASS)
_____ No (FAIL)
Method used to modify engine torque:___ESC actuates Engine Control System_____

System is capable of activation at speeds of 15 km/h (9.3 mph) and higher. __X___Yes (PASS)
_____ No (FAIL)

Speed system becomes active. ___2.8 km/h_____

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

Driving phases system is capable of activation. ___All phases listed above_____

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

DATA INDICATES COMPLIANCE PASS/FAIL _____PASS

REMARKS:

RECORDED BY: __Jason Church_____ DATE:_____8-20-07_____
APPROVED BY: __Jeff Sankey_____ DATE:_____10-22-07____

3.0 TEST DATA….continued

DATA SHEET 3 (Sheet 1 of 5)
ESC MALFUNCTION AND OFF TELLTALES AND CONTROLS – Location, Labeling and Bulb Check

VEHICLE MAKE/MODEL/BODY STYLE: Chevrolet / Avalanche / MPV

NHTSA No.: C70118 TEST DATE: 8-23-07

ESC Malfunction Telltale
Malfunction Telltale Location Instrument Panel Cluster

Telltale is mounted inside the occupant compartment in front of and in clear view of the driver?
X Yes _____No (fail) If no, explain: _____

Telltale is part of a common space? _____ Yes X No

Malfunction Telltale symbol or abbreviation required by FMVSS No. 101.

Or **ESC**

_____ Vehicle uses this symbol
_____ Vehicle uses this abbreviation
X Malfunction telltale symbol used is shown below

Note any words or additional symbols used.

"ESC OFF" Telltale (if provided)
"ESC OFF" Telltale Location Instrument Panel Cluster

"ESC OFF" telltale is mounted inside the occupant compartment in front of and in clear view of the driver?
X Yes _____No (fail) If no, explain: _____

Telltale is part of a common space? _____ Yes X No

3.0 TEST DATA….continued

DATA SHEET 3 (Sheet 2 of 5)
ESC MALFUNCTION AND OFF TELLTALES AND CONTROLS

"ESC OFF" Telltale symbol or abbreviation required by FMVSS No. 101.

Or **ESC OFF**

_____Vehicle uses this symbol
_____Vehicle uses this abbreviation
__X__ESC Off telltale symbol used is shown below

Note any words or additional symbols used.

_____

_____

Malfunction Telltale Lamp Function:
Identify position of ignition locking system when malfunction telltale illuminates.

☐ OFF/LOCK ☐ Between OFF/LOCK and ON/RUN

☒ ON/RUN ☐ Between ON/RUN and Start

Is telltale yellow in color? __X__ Yes _____ No (fail)

Time telltale remains illuminated __4__ seconds

Note: If telltale is part of common space, it is not required to illuminate during this check of lamp function.

Starter Interlock:
Does vehicle have any starter, transmission or other interlocks that affect operation of the Mal-function telltale lamp check functions? _____ Yes __X__ No

If yes, describe the interlock feature:

_____

_____

3.0 TEST DATA….continued

DATA SHEET 3 (Sheet 3 of 5)
ESC MALFUNCTION AND OFF TELLTALES AND CONTROLS

"ESC OFF" Telltale Lamp Function:
Identify position of ignition locking system when "ESC OFF" telltale illuminates.

[ ] OFF/LOCK	[ ] Between OFF/LOCK and ON/RUN
[X] ON/RUN	[ ] Between ON/RUN and Start

Is telltale yellow in color? __X__ Yes _____ No (fail)

Time telltale remains illuminated __4__ seconds

Note: If telltale is part of common space, it is not required to illuminate during the check of lamp function.

Starter Interlock:
Does vehicle have any starter, transmission or other interlocks that affect operation of the "ESC OFF" telltale lamp check functions? ____ Yes __X__ No

If yes, describe the interlock feature:

_____

_____

ESC OFF Control Operational Check:
Is the vehicle equipped with a control whose sole purpose is to deactivate the ESC System? __X__ Yes _____ No

"ESC OFF" Control identification symbol or abbreviation required by FMVSS No. 101.

Or **ESC OFF**

_____ Vehicle uses this symbol
_____ Vehicle uses this abbreviation
__X__ Off control is identified with symbol shown below

Note any words or additional symbols used.

_____

_____

3.0 TEST DATA….continued

DATA SHEET 3 (Sheet 4 of 5)
ESC MALFUNCTION AND OFF TELLTALES AND CONTROLS

Does the "ESC Off" telltale illuminate upon activation of the ESC off control?
__X__ Yes _____ No (fail)
If no, describe off control function:

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?
__X__ Yes _____ No (fail)
If no, describe the off control function:

Other System Controls that have an ancillary effect on ESC Operation:
List other controls (i.e. low speed off-road axle/transfer case):
4 Wheel Drive Low (transmission control)

Does the "ESC OFF" telltale illuminate upon activation of each control system listed above?
__X__ Yes _____ No
If no, describe off control function:

For electrical controls, does the "ESC OFF" telltale extinguish and remain extinguished when the ignition is cycled from "On" ("Run") to "Lock" or "Off" and then back again to the "On" ("Run") position?
_____ Yes _____ No

If no, describe the off control function:

3.0 TEST DATA….continued

DATA SHEET 3 (Sheet 5 of 5)
ESC MALFUNCTION AND OFF TELLTALES AND CONTROLS

For mechanical controls, does the "ESC OFF" telltale extinguish after de-activation of mechanical control?

__X__ Yes _____ No

If no, describe the off control function:

_____

DATA INDICATES COMPLIANCE: PASS/FAIL ___PASS___

REMARKS:

The Avalanche uses the same dashboard telltale to identify a system malfunction and a deactivated ESC system. The telltale symbols and controls labeling do not have to meet the requirements of FMVSS No. 126 until on or after September 1, 2011.

RECORDED BY: Jason Church DATE: 8-23-07
APPROVED BY: Jeff Sankey DATE: 10-22-07

3.0 TEST DATA….continued

DATA SHEET 4 (Sheet 1 of 3)
VEHICLE AND TEST TRACK DATA

VEHICLE MAKE/MODEL/BODY STYLE: Chevrolet / Avalanche / MPV

NHTSA No.: C70118 TEST DATE: 8-28-07

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

Peak Friction Coefficient (at least 0.9) 0.95

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

Tire Pressures: **Required:** Front Axle 210.0 KPA Rear Axle 210.0 KPA
Actual: LF 210.0 KPA RF 210.0 KPA LR 210.0 KPA RR 210.0 KPA

Vehicle Dimensions: Track Width 174.3 cm Wheelbase 330.8 cm

Roof Height 186.7 cm

Vehicle weight ratings: GAWR Front 1724 KG GAWR Rear 1860 KG

Unloaded Vehicle Weight (UVW)

Front Axle 1,351.0 KG Right Front 670.0 KG Left Front 681.0 KG

Rear Axle 1,256.0 KG Right Rear 616.0 KG Left Rear 640.0 KG

Total UVW 2,607.0 KG

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

Calculated Baseline Weight (UVW+ 73 kg) 2,680 KG

Outrigger size required ("Standard" or "Heavy") Standard
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 4 (Sheet 2 of 3)
VEHICLE AND TEST TRACK DATA

UVW with Outriggers (only for MPVs, Trucks, Buses)

Front Axle 1,382.0 KG Right Front 690.0 KG Left Front 692.0 KG

Rear Axle 1,275.0 KG Right Rear 626.0 KG Left Rear 649.0 KG

Total UVW w/ Outriggers 2,657.0 KG

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

Front Axle 1,470.0 KG Right Front 721.5 KG Left Front 748.5 KG

Rear Axle 1,344.0 KG Right Rear 654.5 KG Left Rear 689.5 KG

Total Loaded weight w/ Driver 2,814.0 KG

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

= [2,657.0 KG + 168 KG] - 2,814.0 KG

= 11.0 KG

Total Loaded Vehicle Weight

Front Axle 1,473.0 KG Right Front 723.0 KG Left Front 750.0 KG

Rear Axle 1,353.0 KG Right Rear 659.5 KG Left Rear 693.5 KG

Total Loaded Vehicle Weight 2,826.0 KG

3.0 TEST DATA….continued

DATA SHEET 4 (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	158.4 cm	126.6 cm
y-distance	-1.9 cm	-0.54 cm
z-distance	70.9 cm	76.9 cm

Distance Between Ultrasonic Sensors: 203.2 cm

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

REMARKS:

RECORDED BY: Jason Church DATE: 8-27-07
APPROVED BY: Jeff Sankey DATE: 10-22-07

3.0 TEST DATA….continued

DATA SHEET 5 (Sheet 1 of 3)
BRAKE AND TIRE CONDITIONING

VEHICLE MAKE/MODEL/BODY STYLE: Chevrolet / Avalanche / MPV

VEHICLE NHTSA No.: C70118

Measured Cold Tire Pressures: LF 210 KPA LR 210 KPA

RF 210 KPA RR 210 KPA

Wind Speed 2.7 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)) 28 °C

Brake Conditioning Time; 1:30 PM Date; 8-28-07

56 km/h (35 mph) Brake Stops

Number of stops executed (10 required) 10 stops

Observed deceleration rate range (.5g target) 0.45 - 0.55 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 0.85 - 0.95 g

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

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

3.0 TEST DATA….continued

DATA SHEET 5 (Sheet 2 of 3)
BRAKE AND TIRE CONDITIONING

Tire Conditioning Series No. 1 Time: 10:08 am Date: 8-29-07

Measured Tire Pressures: LF 210 KPA LR 210 KPA

RF 210 KPA RR 210 KPA

Wind Speed 1.3 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 °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	43
4-6	Counterclockwise	0.5-0.6	0.55	43

1 Hz 3 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)	30	0.5-0.6	0.18
2	56±2 (35±1)	90	0.5-0.6	0.48
3	56±2 (35±1)	100	0.5-0.6	0.51
4	56±2 (35±1)		0.5-0.6	

Steering wheel angle that corresponds to a peak 0.5–0.6g lateral acceleration; 100 degrees

1 Hz 10 Cycle Sinusoidal Steering Maneuver				
Test Runs	Vehicle Speed Km/h (mph)	Steering Wheel Angle (degrees)	Target Peak Lateral Acceleration (g)	Observed Peak Lateral Acceleration (g)
1 - 3	56±2 (35±1)	100 (cycles 1-10)	0.5-0.6	0.51
4	56±2 (35±1)	100 (cycles 1-9)	0.5-0.6	0.51
		200 (cycle 10)*	NA	0.80

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

3.0 TEST DATA….continued

DATA SHEET 5 (Sheet 3 of 3)
BRAKE AND TIRE CONDITIONING

Tire Conditioning Series No. 2 Time: 11:50 AM Date: 8-29-07

Measured Tire Pressures: LF 210* KPA LR 210* KPA
RF 210* KPA RR 210* KPA

Wind Speed 4.0 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)) 29.0 °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	43
4-6	counterclockwise	0.5-0.6	0.55	43

1 Hz 3 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)	30	0.5-0.6	0.18
2	56±2 (35±1)	100	0.5-0.6	0.51
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; 100 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)	100 (cycles 1-10)	0.5-0.6	0.51
4	56±2 (35±1)	100 (cycles 1-9)	0.5-0.6	0.51
		200 (cycle 10)*	NA	0.80

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

REMARKS: *The tire pressures listed above were the cold settings, which were recorded prior to Tire Conditioning Series No. 1.

RECORDED BY: Jason Church DATE: 8-29-07
APPROVED BY: Jeff Sankey DATE: 10-22-07

3.0 TEST DATA….continued

DATA SHEET 6 (1 of 2)
SLOWLY INCREASING STEER (SIS) MANEUVER

VEHICLE MAKE/MODEL/BODY STYLE: Chevrolet / Avalanche / MPV

VEHICLE NHTSA No.: C70118 TEST DATE: 8-29-07

Wind Speed 1.3 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)) 24.0 °C

Preliminary Left Steer Maneuver:
Lateral Acceleration measured at 30 degrees steering wheel angle ($a_{y,30\ degrees}$)

$a_{y,30\ degrees}$ = 0.22 g

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

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

δ_{SIS} = 75 degrees

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?
1	Left	10:33 am	-41.0	Yes
2	Left	10:36 am	-41.2	Yes
3	Left	10:38 am	-41.4	Yes
4	Right	10:42 am	40.6	Yes
5	Right	10:44 am	41.2	Yes
6	Right	10:46 am	40.3	Yes

3.0 TEST DATA….continued

DATA SHEET 6 (2 of 2)
SLOWLY INCREASING STEER (SIS) MANEUVER

Average Overall Steering Wheel Angle:

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

$\delta_{0.3\ g,\ overall}$ = 41.0 degrees
[to nearest 0.1 degree]

REMARKS:

RECORDED BY: Jason Church DATE: 8-29-07
APPROVED BY: Jeff Sankey DATE: 10-22-07

3.0 TEST DATA….continued

DATA SHEET 7 (1 of 3)
VEHICLE LATERAL STABILITY AND RESPONSIVENESS

VEHICLE MAKE/MODEL/BODY STYLE: Chevrolet / Avalanche / MPV

VEHICLE NHTSA No.: C70118 TEST DATE: 8-29-07

Tire conditioning completed	X Yes	____ No
ESC System is enabled	X Yes	____ No
On track calibration checks have been completed	X Yes	____ No
On track static data file for each sensor obtained	X Yes	____ No

Overall steering wheel angle ($\delta_{0.3\ g,\ overall}$) 41.0 degrees

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 [≤ 35%]		YRR at 1.75 sec after COS [≤ 20%]	
		Scalar	Angle	$\dot{\psi}_{Peak}$	$\dot{\psi}_{1.0sec}$	$\dot{\psi}_{1.75sec}$	%	Pass/ Fail	%	Pass/ Fail
1	12:03 pm	1.5* $\delta_{0.3\ g}$	62	14.35	-0.11	-0.05	-0.74	Pass	-0.34	Pass
2	12:07 pm	2.0* $\delta_{0.3\ g}$	82	19.07	-0.14	-0.16	-0.74	Pass	-0.84	Pass
3	12:10 pm	2.5* $\delta_{0.3\ g}$	103	24.67	-0.09	-0.20	-0.38	Pass	-0.79	Pass
4	12:14 pm	3.0* $\delta_{0.3\ g}$	123	30.02	0.56	-0.11	1.86	Pass	-0.38	Pass
5	12:16 pm	3.5* $\delta_{0.3\ g}$	144	35.65	0.76	-0.03	2.12	Pass	-0.10	Pass
6	12:19 pm	4.0* $\delta_{0.3\ g}$	164	39.37	0.87	-0.05	2.22	Pass	-0.14	Pass
7	12:22 pm	4.5* $\delta_{0.3\ g}$	185	42.14	-3.04	-0.58	-7.21	Pass	-1.37	Pass
8	12:26 pm	5.0* $\delta_{0.3\ g}$	205	44.53	-3.68	-0.81	-8.26	Pass	-1.81	Pass
9	12:30 pm	5.5* $\delta_{0.3\ g}$	226	46.70	-5.01	-0.50	-10.73	Pass	-1.07	Pass
10	12:33 pm	6.0* $\delta_{0.3\ g}$	246	48.22	-6.62	-0.75	-13.73	Pass	-1.55	Pass
11	12:37 pm	6.5* $\delta_{0.3\ g}$	267	49.66	-5.10	-0.51	-10.27	Pass	-1.02	Pass
12	12:40 pm	6.6* $\delta_{0.3\ g}$	270	49.21	-0.07	0.33	-0.14	Pass	0.68	Pass

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

3.0 TEST DATA….continued

DATA SHEET 7 (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 [≤ 35%]		YRR at 1.75 sec after COS [≤ 20%]	
		Scalar	Angle	$\dot{\psi}_{Peak}$	$\dot{\psi}_{1.0sec}$	$\dot{\psi}_{1.75sec}$	%	Pass/ Fail	%	Pass/ Fail
1	12:44 pm	1.5* $\delta_{0.3\ g}$	62	-14.38	0.11	-0.07	-0.80	Pass	0.52	Pass
2	12:47 pm	2.0* $\delta_{0.3\ g}$	82	-19.80	0.06	0.13	-0.28	Pass	-0.68	Pass
3	12:50 pm	2.5* $\delta_{0.3\ g}$	103	-25.34	0.23	0.21	-0.92	Pass	-0.82	Pass
4	12:53 pm	3.0* $\delta_{0.3\ g}$	123	-31.06	-0.01	0.11	0.02	Pass	-0.35	Pass
5	12:56am	3.5* $\delta_{0.3\ g}$	144	-36.86	-1.04	-0.01	2.83	Pass	0.03	Pass
6	12:59am	4.0* $\delta_{0.3\ g}$	164	-39.29	-1.16	0.07	2.94	Pass	-0.17	Pass
7	1:01 pm	4.5* $\delta_{0.3\ g}$	185	-42.71	-0.38	-0.26	0.88	Pass	0.60	Pass
8	1:04 pm	5.0* $\delta_{0.3\ g}$	205	-44.59	-1.17	0.09	2.62	Pass	-0.20	Pass
9	1:07 pm	5.5* $\delta_{0.3\ g}$	226	-47.69	2.81	0.03	-5.90	Pass	-0.06	Pass
10	1:10 pm	6.0* $\delta_{0.3\ g}$	246	-49.93	3.67	0.41	-7.34	Pass	-0.81	Pass
11	1:13 pm	6.5* $\delta_{0.3\ g}$	267	-51.75	2.82	0.43	-5.46	Pass	-0.84	Pass
12	1:16 pm	6.6* $\delta_{0.3\ g}$	270	-51.17	4.12	0.50	-8.05	Pass	-0.97	Pass

1. Maneuver execution should continue until a steering wheel angle magnitude factor of 6.5*$\delta_{0.3\ g,\ overall}$ or 270 degrees is utilized, whichever is greater provided the calculated 6.5*$\delta_{0.3\ g,\ overall}$ is less than or equal to 300 degrees. If 6.5*$\delta_{0.3\ g,\ overall}$ is less than 270 degrees maneuver execution should continue by increasing the steering wheel angle magnitude by multiples of 0.5*$\delta_{0.3\ g,\ overall}$ 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 debeading	_____ 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 7 (3 of 3)
VEHICLE LATERAL STABILITY AND RESPONSIVENESS

Responsiveness – Lateral Displacement

Maneuver #	Initial Steer Direction	Commanded Steering Wheel Angle ($5.0*\delta_{0.3\,g,\,overall}$ or greater)		Calculated Lateral Displacement[1]	
		Scalar	Angle (degrees)	Distance (m)	Pass/Fail
8	Counter Clockwise	$5.0*\delta_{0.3\,g}$	205	2.51	Pass
9	Counter Clockwise	$5.5*\delta_{0.3\,g}$	226	2.53	Pass
10	Counter Clockwise	$6.0*\delta_{0.3\,g}$	246	2.54	Pass
11	Counter Clockwise	$6.5*\delta_{0.3\,g}$	267	2.54	Pass
12	Counter Clockwise	$6.6*\delta_{0.3\,g}$	270	2.54	Pass
	Counter Clockwise				
	Counter Clockwise				
	Counter Clockwise				
8	Clockwise	$5.0*\delta_{0.3\,g}$	205	2.50	Pass
9	Clockwise	$5.5*\delta_{0.3\,g}$	226	2.48	Pass
10	Clockwise	$6.0*\delta_{0.3\,g}$	246	2.54	Pass
11	Clockwise	$6.5*\delta_{0.3\,g}$	267	2.56	Pass
12	Clockwise	$6.6*\delta_{0.3\,g}$	270	2.55	Pass
	Clockwise				
	Clockwise				
	Clockwise				

1. Lateral displacement should be $\geq$ 1.83 m (6 ft) for vehicles with a GVWR of 3,500 kg (7,716 lb) or less; and $\geq$ 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: Jason Church DATE: 8-29-07
APPROVED BY: Jeff Sankey DATE: 10-22-07

3.0 TEST DATA….continued

DATA SHEET 8
MALFUNCTION WARNING TEST

VEHICLE MAKE/MODEL/BODY STYLE: Chevrolet / Avalanche / MPV

VEHICLE NHTSA No.: C70118 TEST DATE: 8-30-07

CHECK MALFUNCTION TELLTALE BULB CHECK FUNCTION:
Before simulating an ESC system malfunction activate the vehicle ignition locking system and verify telltale illuminates for the bulb check and then extinguishes.
X Yes ____ No

METHOD OF MALFUNCTION SIMULATION:
Describe method of malfunction simulation: 1) Disconnect Yaw Rate and Lateral Acceleration Sensor 2) Disconnect Electronic Brake Control Module 3) Disconnect LF ABS Sensor

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 X Yes ____ No

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

SEE REMARKS Seconds (must be within 2 minutes) X Pass ____ Fail

Cycle ignition locking system and start the vehicle's engine. Verify that the malfunction telltale illuminates and stays illuminated. X Yes ____ No

After the ESC system is restored to normal operation verify that the telltale does not remain illuminated. X Yes ____ No

DATA INDICATES COMPLIANCE: PASS/FAIL PASS

REMARKS:
Malfunction telltale illuminated immediately upon cycling ignition locking system without driving vehicle.

RECORDED BY: Jason Church DATE: 8-30-07
APPROVED BY: Jeff Sankey DATE: 10-22-07

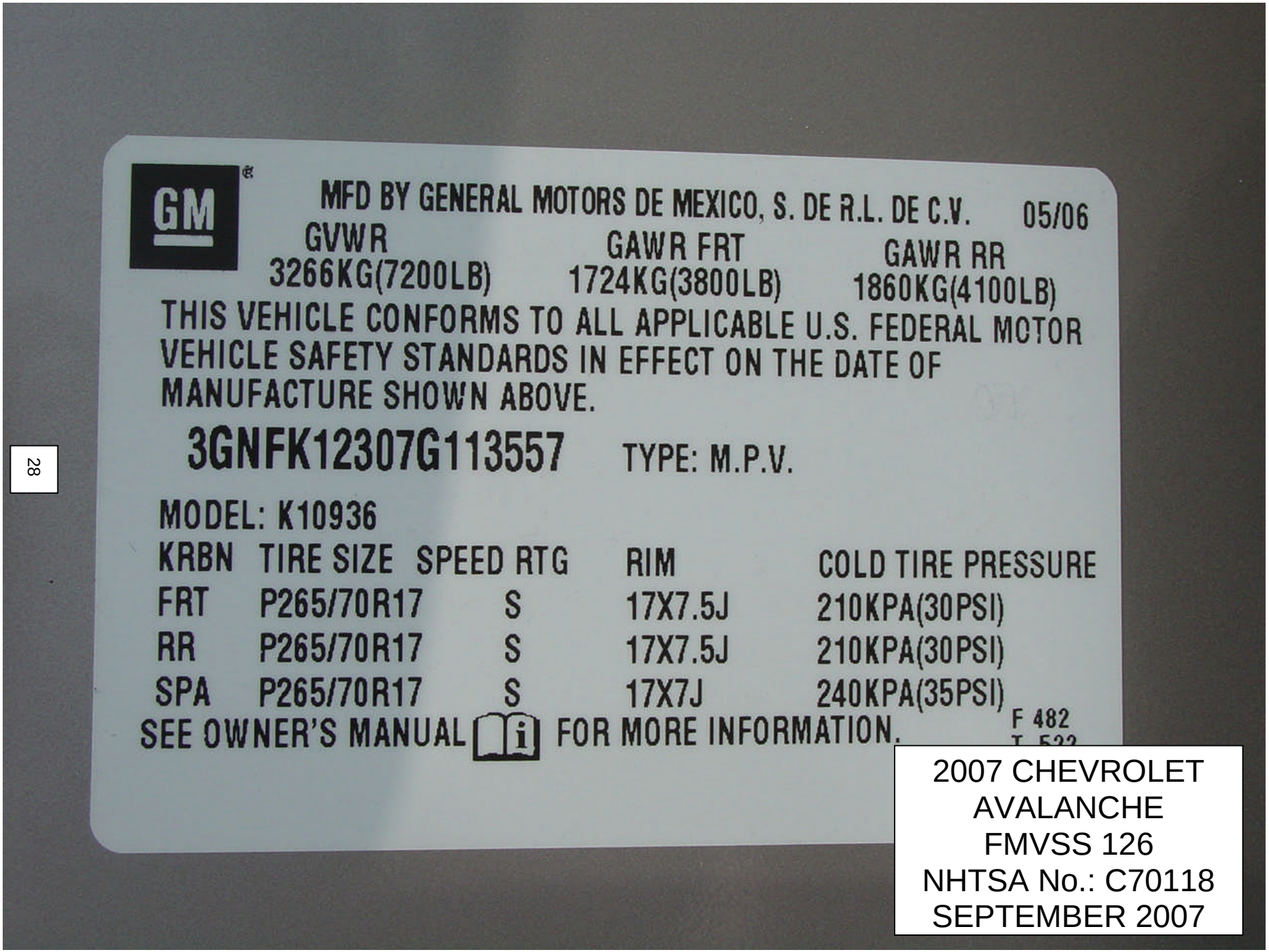
4.0 TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

Type	Output	Range	Resolution	Accuracy	Specifics	Serial Number	Calibration
Tire Pressure Gage	Vehicle Tire Pressure	0-100psi	1 psi	±2.0% of applied pressure	Marsh Model: Series J 0-100psi	AG-102	By: TRC Date: 11-6-06 Due: 11-6-07
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	5225831-5JC	By: Mettler Date: 8-20-07 Due: 11-20-07
Automated Steering Machine with Steering Angle Encoder	Handwheel Angle	±800 deg	0.25 deg	±0.25 deg	Heitz Automotive Testing Model: Sprint 3	60303	By: TRC Date: 6-18-07 Due: 6-18-08
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	0767	By: BEI Tech. Date: 6-21-07 Due: 6-21-08
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	1400603	By: A-DAT Date: 9-9-06 Due: 9-9-07
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	104619 & 104613	By: TRC Date: per test Due: per test
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	12060 1105	By: Dewetron Date: 3-20-07 Due: 3-20-08
Load Cell	Vehicle Brake Pedal Force	0-300 lb	1 lb	±0.05% of full scale	DATRON Model: DTM-LPA	4970- 1103	By: TRC Date: per test Due: per test
Coordinate Measurement Machine	Inertial Sensing System Location	0-10 feet	0.001 inch	±0.003% of full scale	FARO International Model: Faro Arm N10	N10-02-03-01310	By: FARO Date: 12-04-06 Due: 12-04-07
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 FRONTAL VIEW FROM LEFT SIDE OF VEHICLE
5.2 VEHICLE CERTIFICATION LABEL
5.3 VEHICLE PLACARD
5.4 WINDOW STICKER (MONRONEY LABEL)
5.5 ESC MALFUNCTION AND ESC OFF TELLTALE
5.6 ESC OFF CONTROL
5.7 OTHER CONTROL HAVING ANCILLARY EFFECT ON ESC
5.8 TEST VEHICLE WITH OUTRIGGERS
5.9 TEST INSTRUMENTATION - STEERING WHEEL CONTROLLER AND DATA ACQUISITION SYSTEM
5.10 TEST INSTRUMENTATION - STEERING CONTROLLER BATTERY BOX AND BALLAST
5.11 TEST INSTRUMENTATION - VEHICLE SPEED SENSOR
5.12 TEST INSTRUMENTATION - BODY ROLL SENSOR
5.13 TEST INSTRUMENTATION - BODY ROLL SENSOR

5.1 ¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE

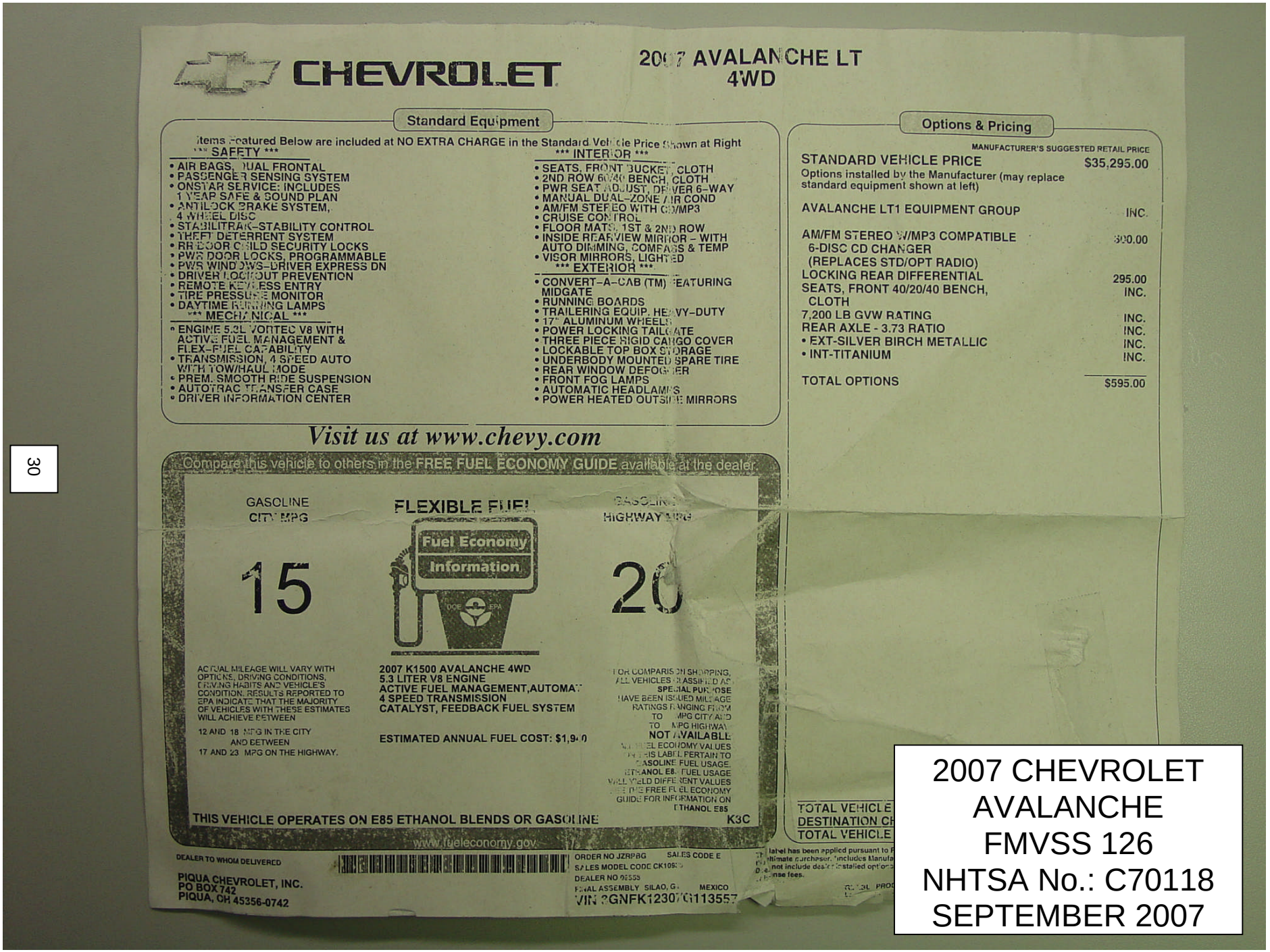


2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

5.2 VEHICLE CERTIFICATION LABEL

2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

5.3 VEHICLE PLACARD



CHEVROLET

2007 AVALANCHE LT
4WD

Standard Equipment

Items Featured Below are included at NO EXTRA CHARGE in the Standard Vehicle Price Shown at Right

*** SAFETY ***
- AIR BAGS, DUAL FRONTAL
- PASSENGER SENSING SYSTEM
- ONSTAR SERVICE: INCLUDES 1 YEAR SAFE & SOUND PLAN
- ANTILOCK BRAKE SYSTEM, 4 WHEEL DISC
- STABILITRAK–STABILITY CONTROL
- THEFT DETERRENT SYSTEM
- RR DOOR CHILD SECURITY LOCKS
- PWR DOOR LOCKS, PROGRAMMABLE
- PWR WINDOWS–DRIVER EXPRESS DN
- DRIVER LOCKOUT PREVENTION
- REMOTE KEYLESS ENTRY
- TIRE PRESSURE MONITOR
- DAYTIME RUNNING LAMPS

*** MECHANICAL ***
- ENGINE 5.3L VORTEC V8 WITH ACTIVE FUEL MANAGEMENT & FLEX–FUEL CAPABILITY
- TRANSMISSION, 4 SPEED AUTO WITH TOW/HAUL MODE
- PREM. SMOOTH RIDE SUSPENSION
- AUTOTRAC TRANSFER CASE
- DRIVER INFORMATION CENTER

*** INTERIOR ***
- SEATS, FRONT BUCKET, CLOTH
- 2ND ROW 60/40 BENCH, CLOTH
- PWR SEAT ADJUST, DRIVER 6–WAY
- MANUAL DUAL–ZONE AIR COND
- AM/FM STEREO WITH CD/MP3
- CRUISE CONTROL
- FLOOR MATS, 1ST & 2ND ROW
- INSIDE REARVIEW MIRROR – WITH AUTO DIMMING, COMPASS & TEMP
- VISOR MIRRORS, LIGHTED

*** EXTERIOR ***
- CONVERT–A–CAB (TM) FEATURING MIDGATE
- RUNNING BOARDS
- TRAILERING EQUIP, HEAVY–DUTY
- 17" ALUMINUM WHEELS
- POWER LOCKING TAILGATE
- THREE PIECE RIGID CARGO COVER
- LOCKABLE TOP BOX STORAGE
- UNDERBODY MOUNTED SPARE TIRE
- REAR WINDOW DEFOGGER
- FRONT FOG LAMPS
- AUTOMATIC HEADLAMPS
- POWER HEATED OUTSIDE MIRRORS

Options & Pricing

	MANUFACTURER'S SUGGESTED RETAIL PRICE
STANDARD VEHICLE PRICE	$35,295.00
Options installed by the Manufacturer (may replace standard equipment shown at left)	
AVALANCHE LT1 EQUIPMENT GROUP	INC.
AM/FM STEREO W/MP3 COMPATIBLE 6-DISC CD CHANGER (REPLACES STD/OPT RADIO)	300.00
LOCKING REAR DIFFERENTIAL	295.00
SEATS, FRONT 40/20/40 BENCH, CLOTH	INC.
7,200 LB GVW RATING	INC.
REAR AXLE - 3.73 RATIO	INC.
• EXT-SILVER BIRCH METALLIC	INC.
• INT-TITANIUM	INC.
TOTAL OPTIONS	$595.00

Visit us at www.chevy.com

Compare this vehicle to others in the FREE FUEL ECONOMY GUIDE available at the dealer.

GASOLINE CITY MPG: 15

FLEXIBLE FUEL

Fuel Economy Information

GASOLINE HIGHWAY MPG: 20

ACTUAL MILEAGE WILL VARY WITH OPTIONS, DRIVING CONDITIONS, DRIVING HABITS AND VEHICLE'S CONDITION. RESULTS REPORTED TO EPA INDICATE THAT THE MAJORITY OF VEHICLES WITH THESE ESTIMATES WILL ACHIEVE BETWEEN

12 AND 18 MPG IN THE CITY
AND BETWEEN
17 AND 23 MPG ON THE HIGHWAY.

2007 K1500 AVALANCHE 4WD
5.3 LITER V8 ENGINE
ACTIVE FUEL MANAGEMENT,AUTOMAT
4 SPEED TRANSMISSION
CATALYST, FEEDBACK FUEL SYSTEM

ESTIMATED ANNUAL FUEL COST: $1,9[illegible]

FOR COMPARISON SHOPPING, ALL VEHICLES CLASSIFIED AS SPECIAL PURPOSE HAVE BEEN ISSUED MILEAGE RATINGS RANGING FROM [illegible] TO [illegible] MPG CITY AND [illegible] TO [illegible] MPG HIGHWAY.

NOT AVAILABLE

ALL FUEL ECONOMY VALUES ON THIS LABEL PERTAIN TO GASOLINE FUEL USAGE. ETHANOL E85 FUEL USAGE WILL YIELD DIFFERENT VALUES SEE THE FREE FUEL ECONOMY GUIDE FOR INFORMATION ON ETHANOL E85

THIS VEHICLE OPERATES ON E85 ETHANOL BLENDS OR GASOLINE

K3C

www.fueleconomy.gov

TOTAL VEHICLE [illegible]
DESTINATION CH[illegible]
TOTAL VEHICLE [illegible]

label has been applied pursuant to F[illegible] ultimate purchaser. Includes Manufa[illegible] not include dealer installed option[illegible] nse fees.

DEALER TO WHOM DELIVERED

PIQUA CHEVROLET, INC.
PO BOX 742
PIQUA, OH 45356-0742

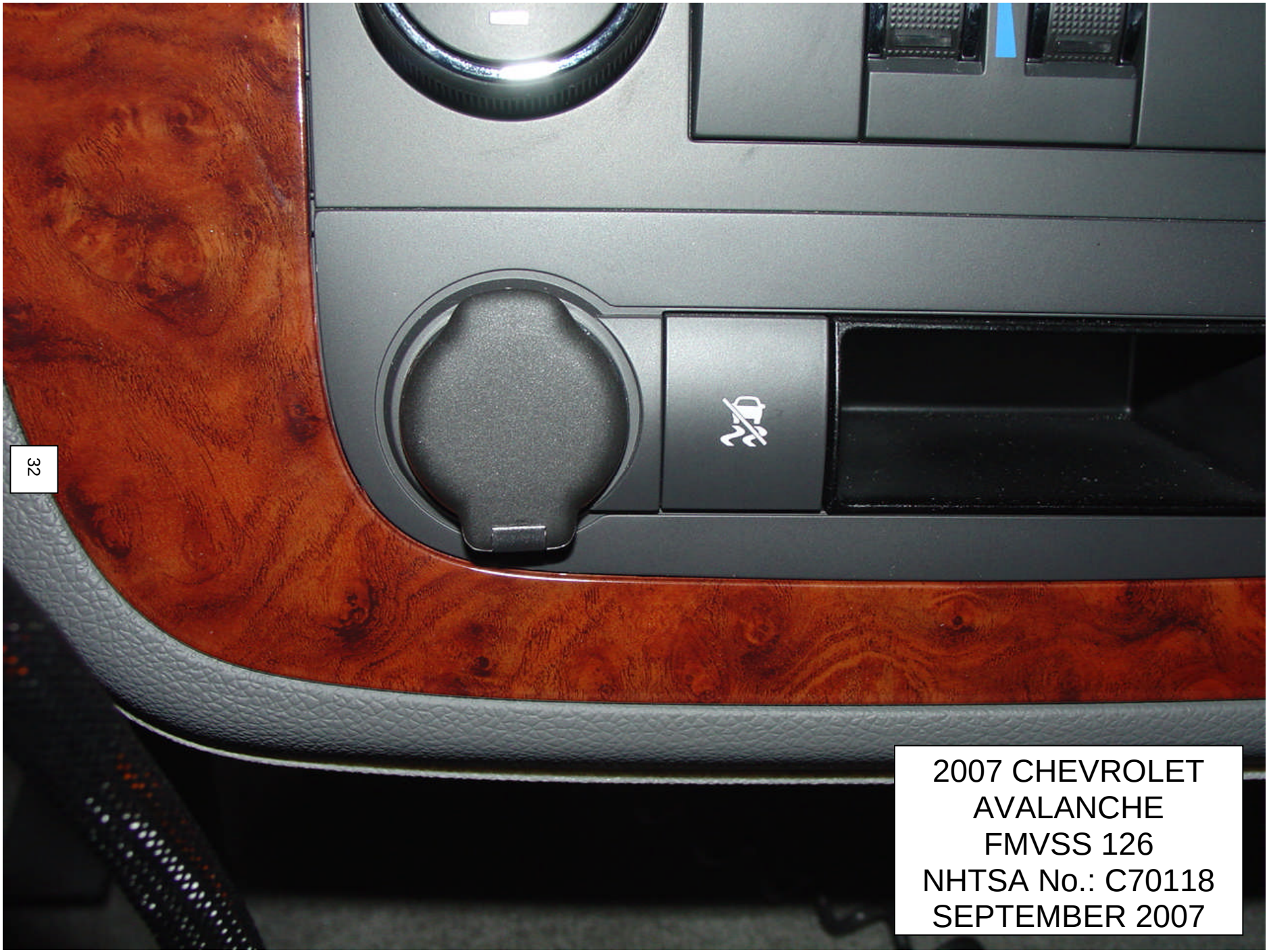
ORDER NO JZRPAG SALES CODE E
SALES MODEL CODE CK1093
DEALER NO 05555
FINAL ASSEMBLY SILAO, G[illegible] MEXICO
VIN 2GNFK1230[illegible]113557

2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

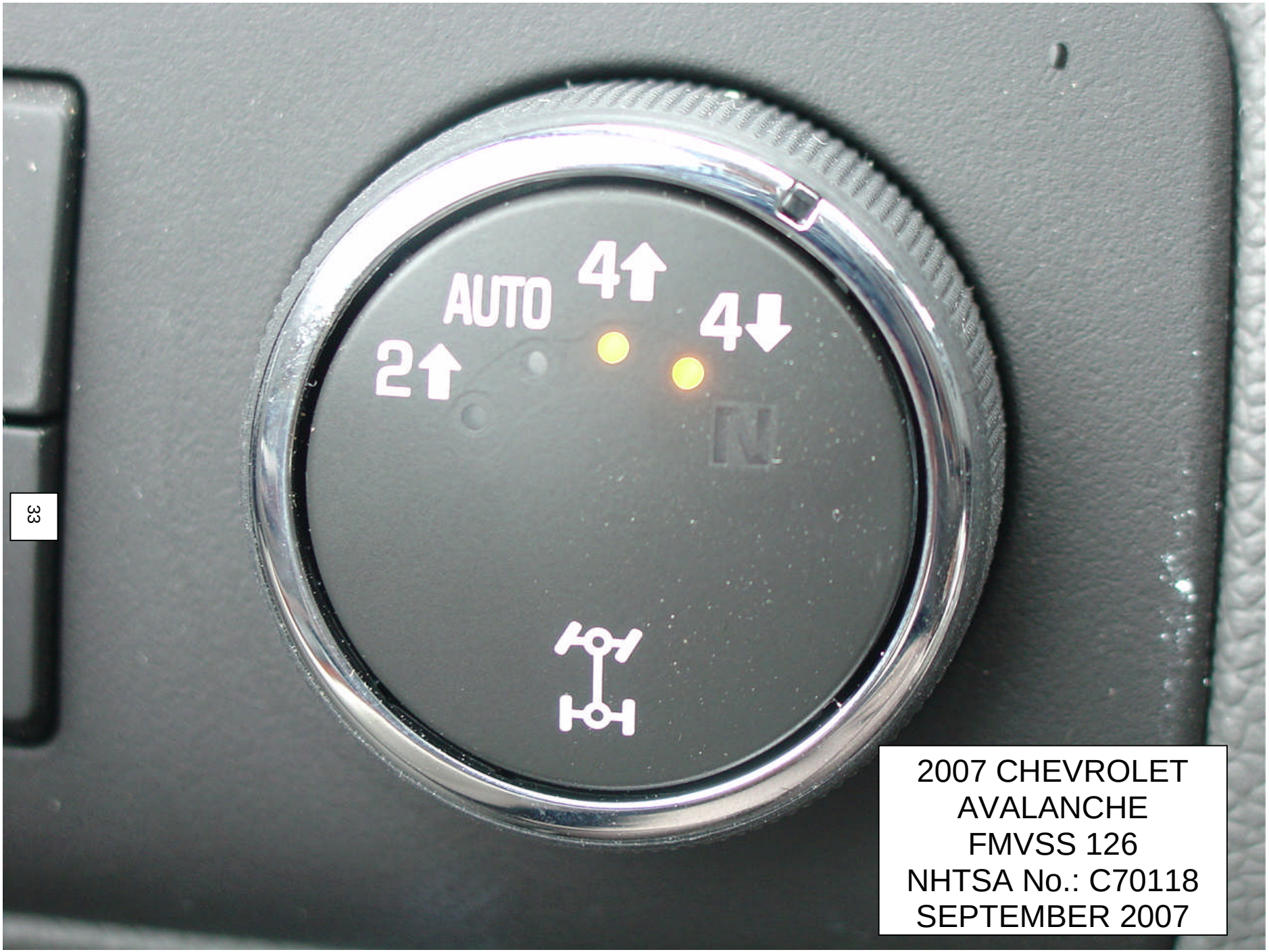
5.4 WINDOW STICKER (MONRONEY LABEL)

2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

5.5 ESC MALFUNCTION AND ESC OFF TELLTALE



5.6 ESC OFF CONTROL



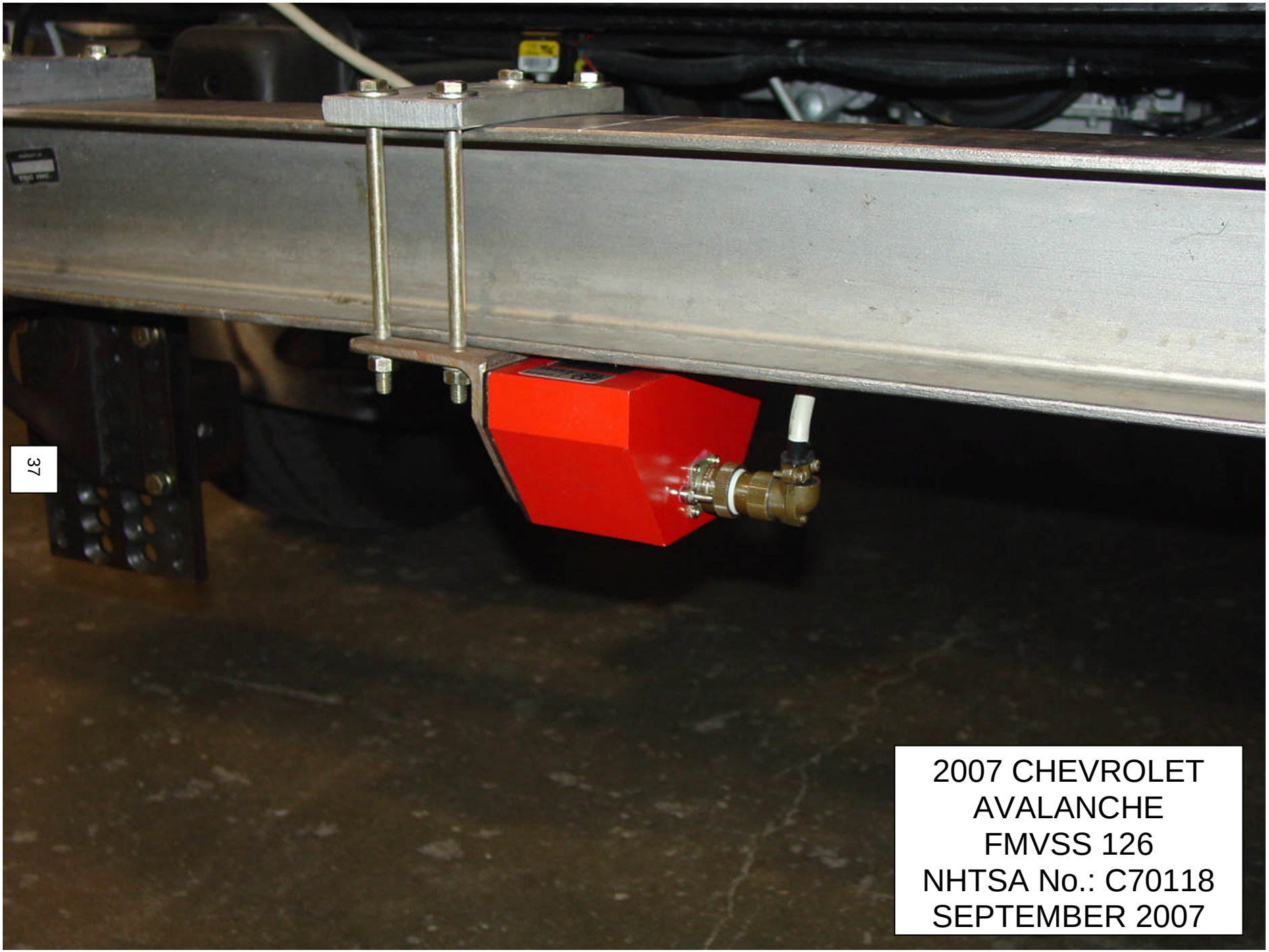
2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

5.7 OTHER CONTROL HAVING ANCILLARY EFFECT ON ESC

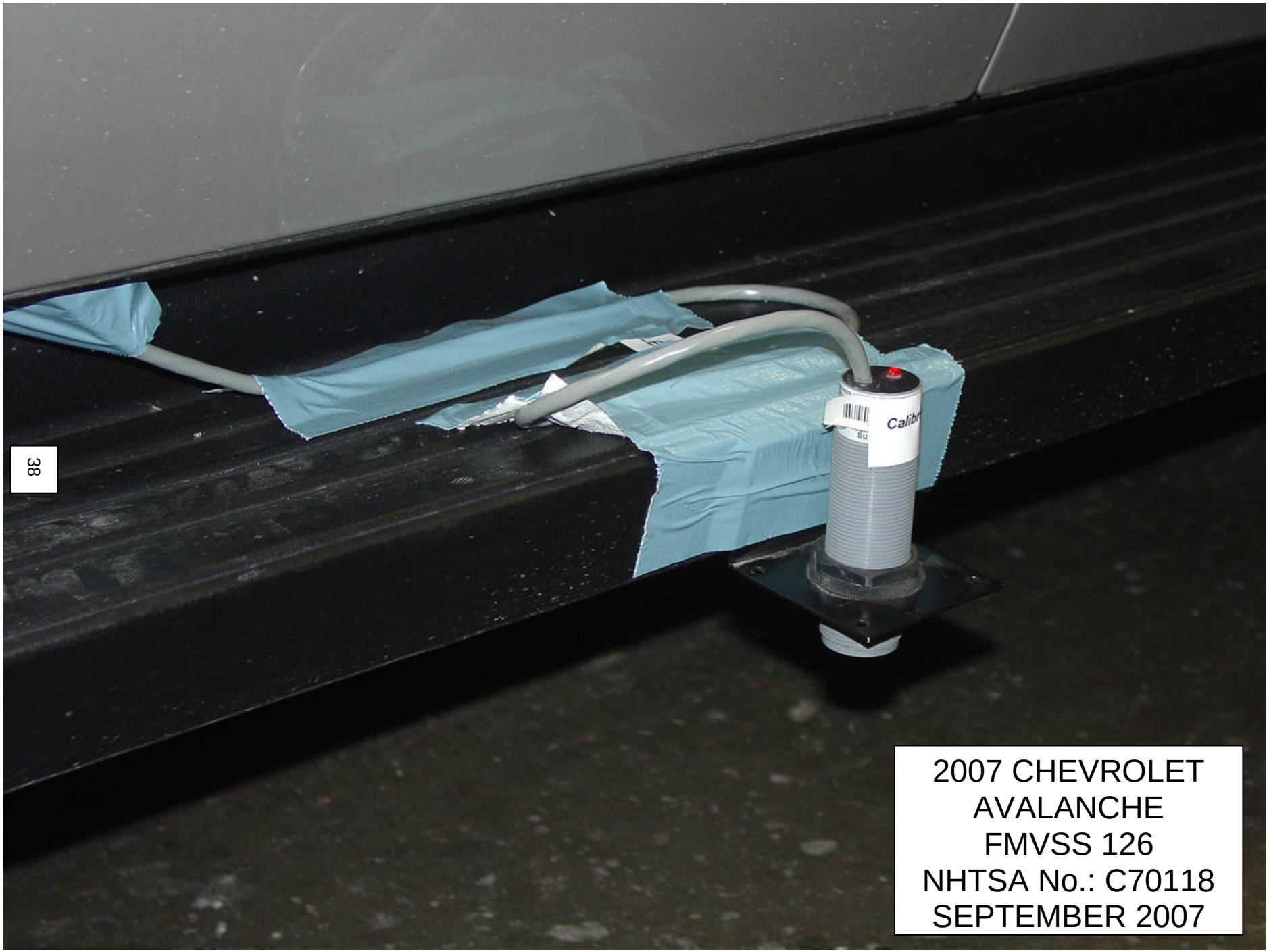
5.8 TEST VEHICLE WITH OUTRIGGERS

5.9 TEST INSTRUMENTATION – STEERING WHEEL CONTROLLER AND DATA ACQUISITION SYSTEM

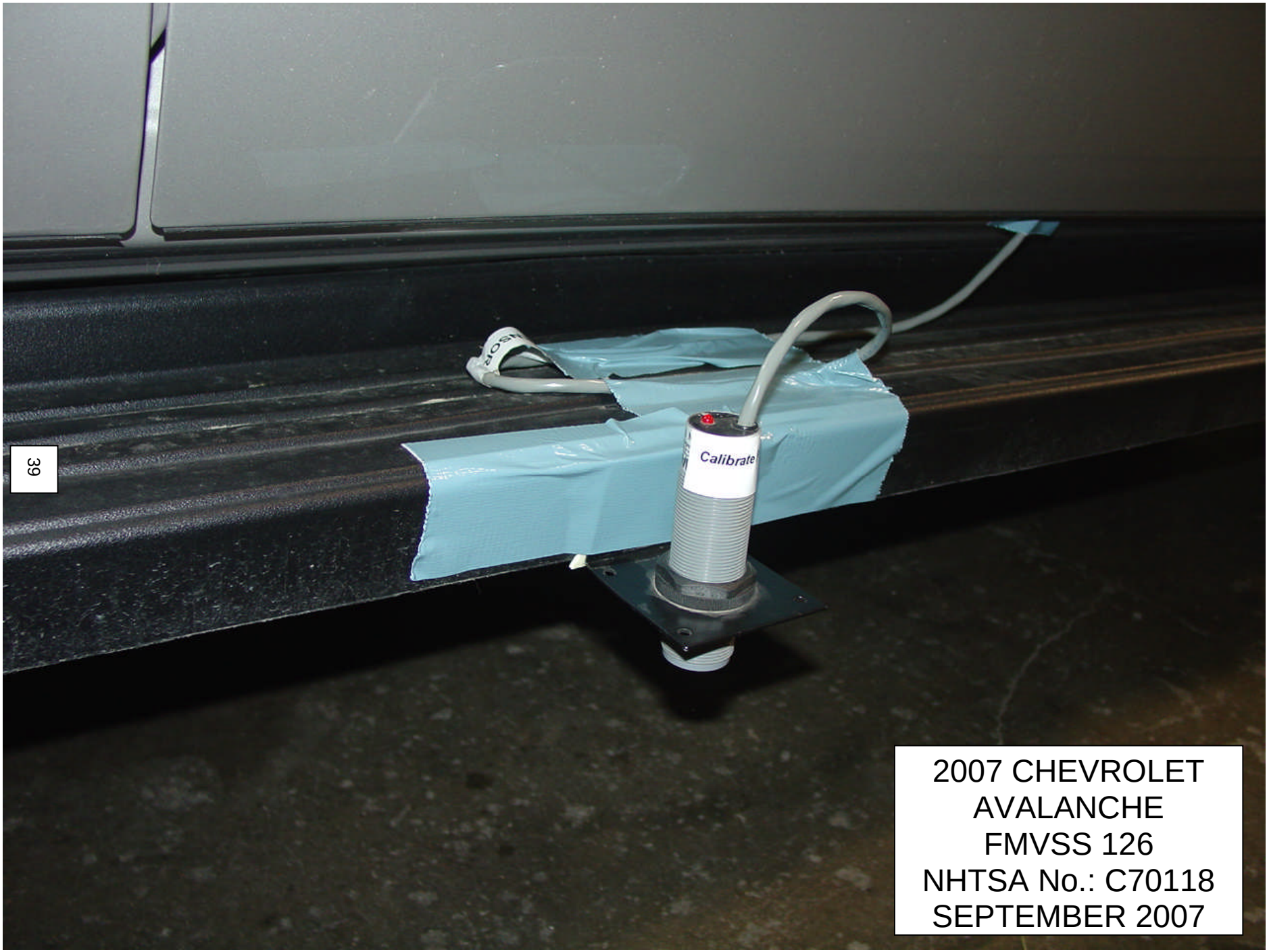
5.10 TEST INSTRUMENTATION – STEERING CONTROLLER BATTERY BOX AND BALLAST



5.11 TEST INSTRUMENTATION – VEHICLE SPEED SENSOR



5.12 TEST INSTRUMENTATION – BODY ROLL SENSOR



5.13 TEST INSTRUMENTATION – BODY ROLL SENSOR

6.0 DATA PLOTS

6.0 DATA PLOTS

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

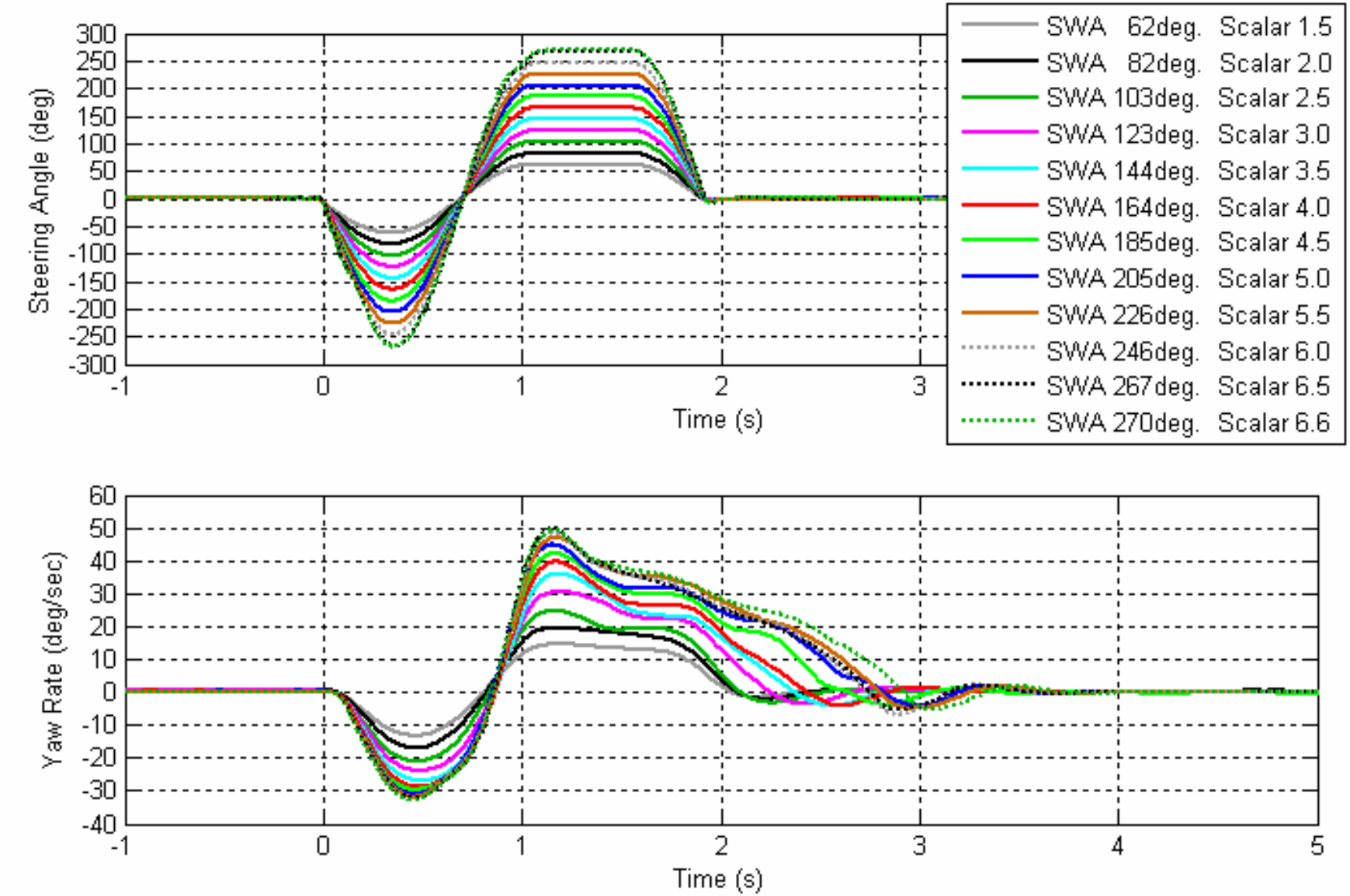


Figure 2. Steering Angle, Lateral Acceleration, and Lateral Displacement Time History, Counter-Clockwise Initial Steer Tests

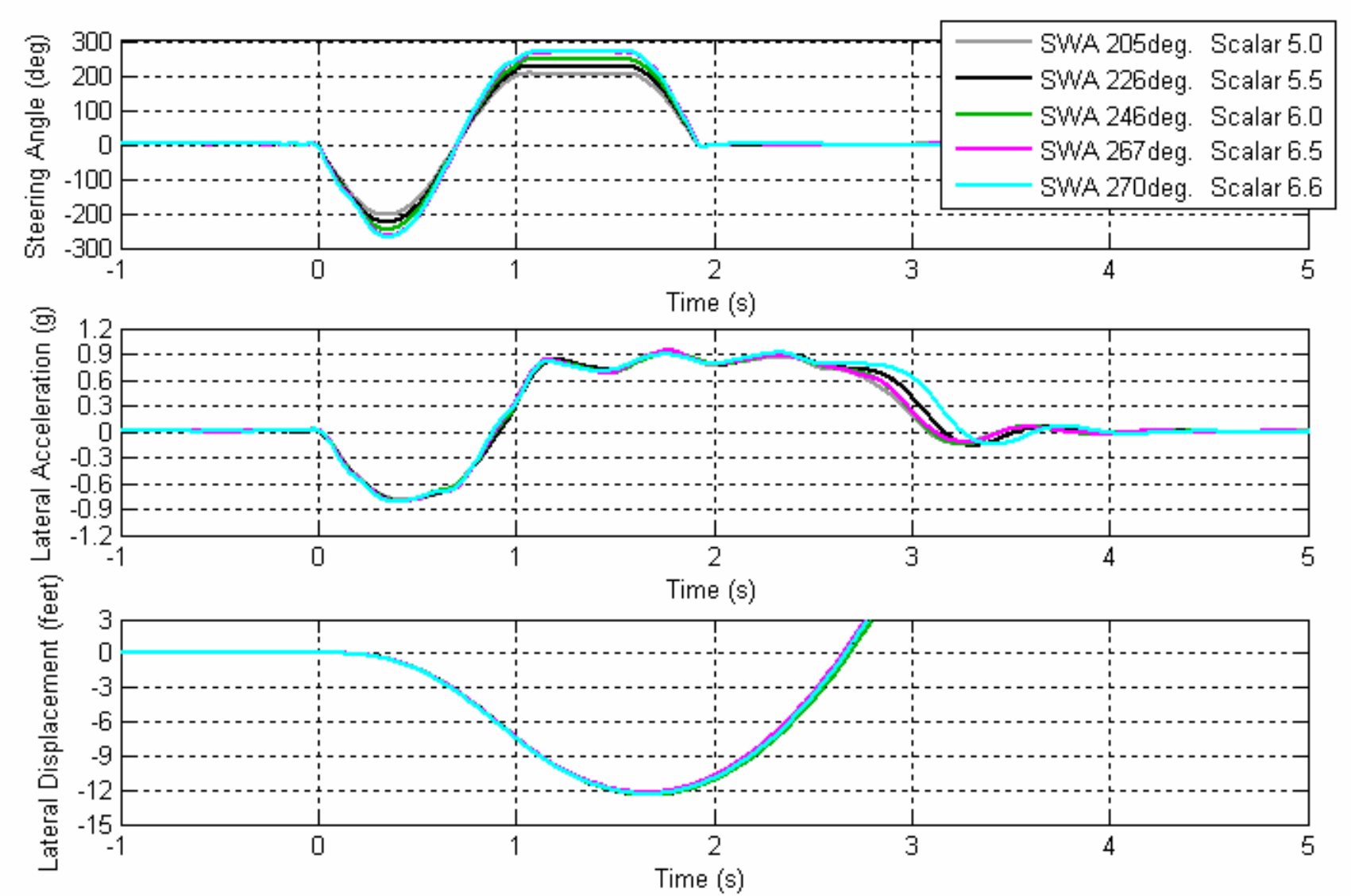


Figure 3. Steering Angle and Yaw Rate Time History, Clockwise Initial Steer Tests

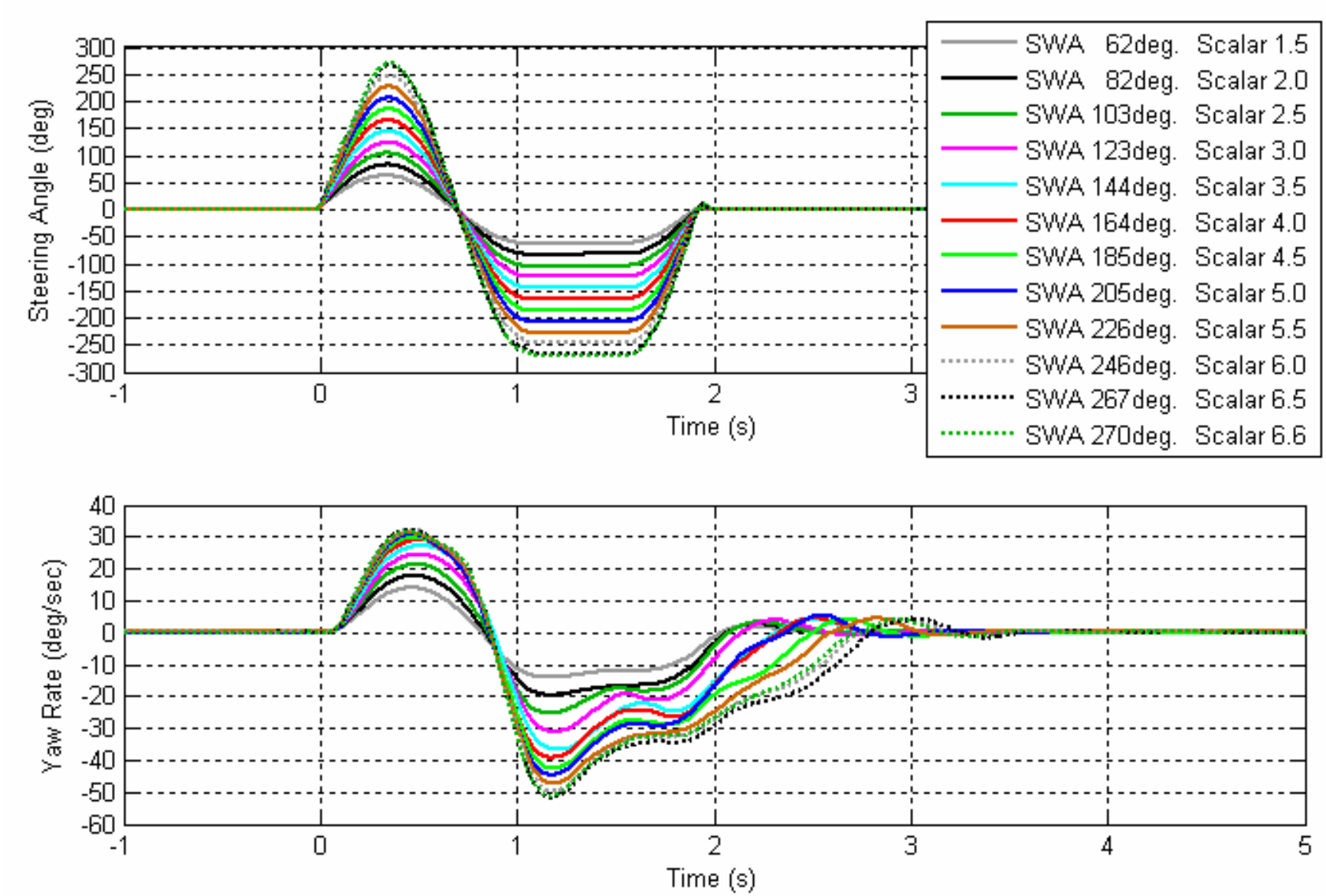
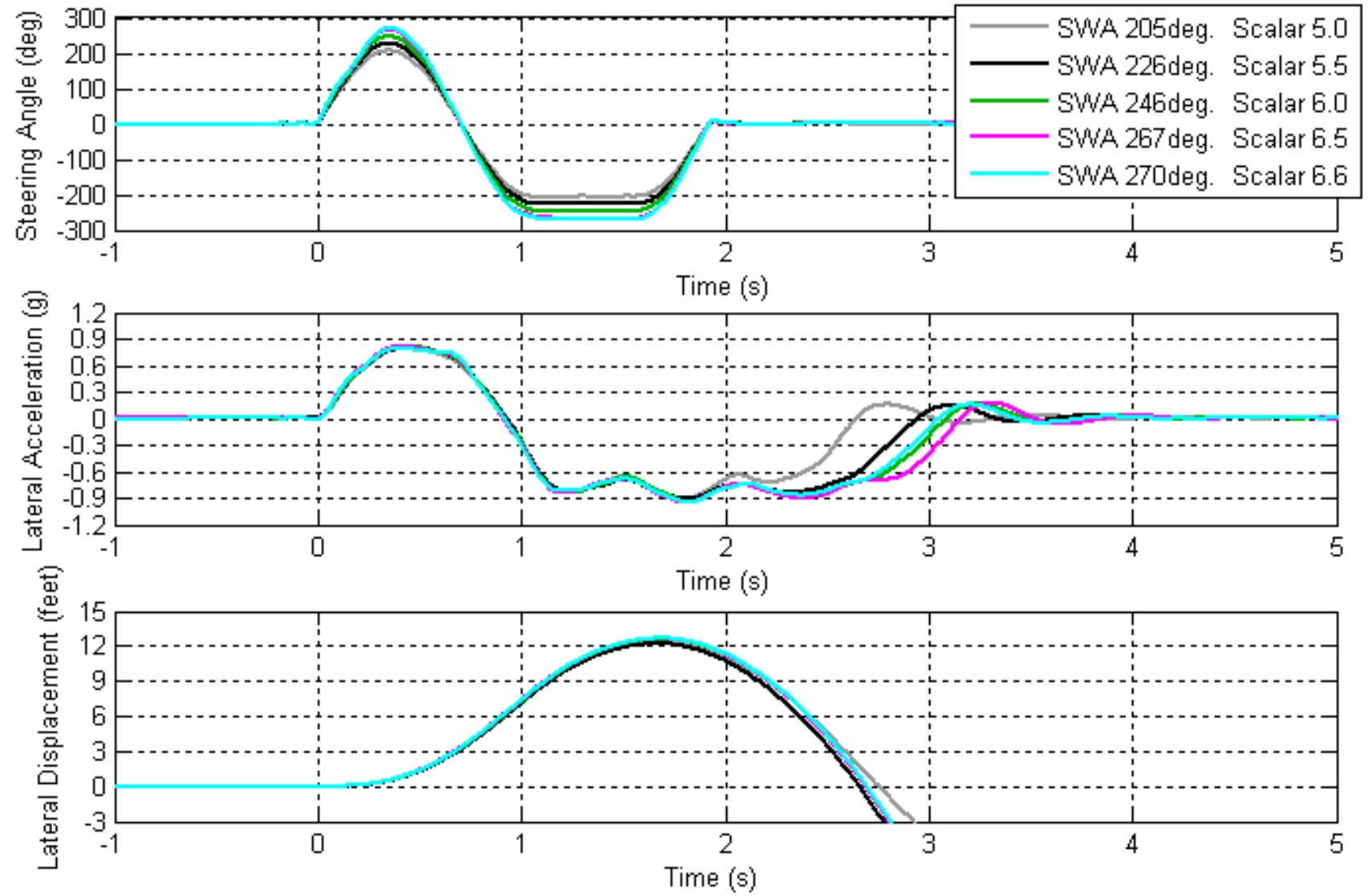


Figure 4. Steering Angle, Lateral Acceleration, and Lateral Displacement Time History, Clockwise Initial Steer Tests



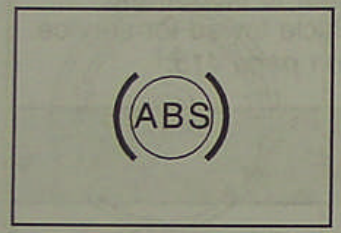
7.0 OTHER DOCUMENTATION

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

2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

stem Warning Light



With the anti-lock brake system, this light will come on when you start your engine and may stay on for several seconds.

That's normal. If the light does not come on then, have it fixed so it will be ready to warn you if there is a problem.

If the light stays on, or comes on when you are driving, your vehicle needs service. You will also hear a chime sound when the light is on steady. If the regular brake system warning light is not on, you still have brakes, but you do not have anti-lock brakes. If the regular brake system warning light is also on you do not have anti-lock brakes and there is a problem with your regular brakes. In addition to both lights, you will also hear a chime sound on the first occurrence of a problem and each time the vehicle is shut off and then restarted. See *Brake System Warning Light on page 246.*

The anti-lock brake system warning light should come on briefly when you turn the ignition key to RUN. If the light does not come on then, have it fixed so it will be ready to warn you if there is a problem.

StabiliTrak® Indicator Light

This warning light should come on briefly when the engine is started.

If the warning light does not come on then, have it fixed so it will be ready to warn you if there is a problem. If it stays on, or comes on when you are driving, there may be a problem with your StabiliTrak® system and your vehicle may need service. When this warning light is on, the system is off and will not limit wheel spin. Adjust your driving accordingly.

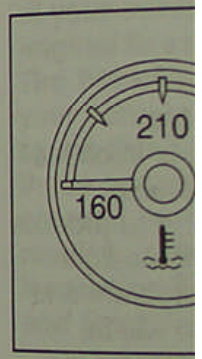
47

248

This light will a
system is activ

If the StabiliTra
and stays on f
when the syste
service. See S
for more inform

Engine Co



United S

This gage sho

7.1 OWNERS MANUAL PAGES

ng light should
e ignition
come on then,
warn you if there

ght

rning light
come on briefly
e engine is

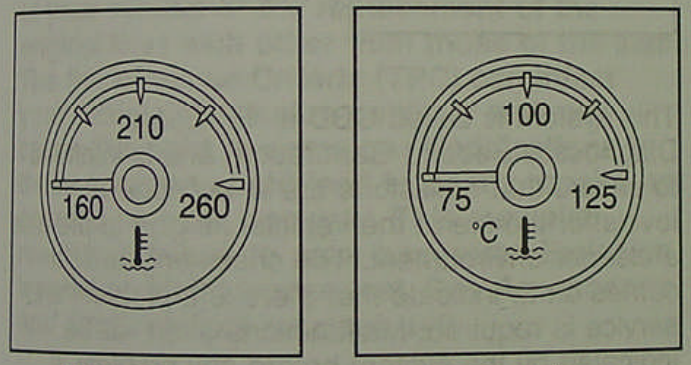
48

on then, have it
u if there is a
n when you are
ith your
cle may need
on, the system
Adjust your

This light will also flash when the StabiliTrak® system is active.

If the StabiliTrak® system warning light comes on and stays on for an extended period of time when the system is turned on, your vehicle needs service. See *StabiliTrak® System on page 363* for more information.

Engine Coolant Temperature Gage



United States Canada

This gage shows the engine coolant temperature.

It also provides an indicator of how hard your vehicle is working. During a majority of the operation, the gage will read 210°F (100°C) or less. If you are pulling a load or going up hills, it is normal for the temperature to fluctuate and approach the 250°F (122°C) mark. If the gage reaches the 260°F (125°C) mark, it indicates that the cooling system is working beyond its capacity.

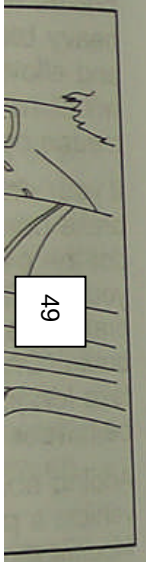
See *Engine Overheating on page 468*.

249

2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

OWNERS MANUAL PAGES

than
nmed to
the



49

eiving
raking

Remember: ABS does not change the time you need to get your foot up to the brake pedal or always decrease stopping distance. If you get too close to the vehicle in front of you, you will not have time to apply your brakes if that vehicle suddenly slows or stops. Always leave enough room up ahead to stop, even though you have ABS.

Using ABS

Do not pump the brakes. Just hold the brake pedal down firmly and let anti-lock work for you. You may feel the brakes vibrate, or you may notice some noise, but this is normal.

Braking in Emergencies

With ABS, you can steer and brake at the same time. In many emergencies, steering can help you more than even the very best braking.

Locking Rear Axle

If your vehicle has this feature, it can give you additional traction on snow, mud, ice, sand or gravel. It works like a standard axle most of the time, but when one of the rear wheels has no traction and the other does, this feature will allow the wheel with traction to move the vehicle.

StabiliTrak® System

Your vehicle may be equipped with the StabiliTrak® system which combines antilock brake, traction and stability control systems and helps the driver maintain directional control of the vehicle in most driving conditions.

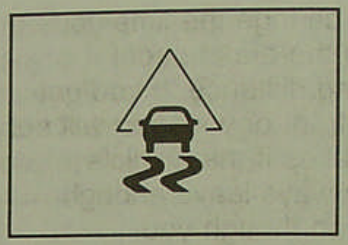
When you first start your vehicle and begin to drive away, the system performs several diagnostic checks to ensure there are no problems. You may hear or feel the system working. This is normal and does not mean there is a problem with your vehicle. The system should initialize before the vehicle reaches 20 mph (32 km/h). In some cases, it may take approximately two miles of driving before the system initializes.

2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

OWNERS MANUAL PAGES

50

If the system fails to turn on or activate, the StabiliTrak® light along with one of the following messages will be displayed on the Driver Information Center (DIC): TRACTION CONTROL OFF, SERVICE TRACTION CONTROL, STABILITRAK OFF, SERVICE STABILITRAK. If these DIC messages appear, make sure the StabiliTrak® system has not been turned off using the StabiliTrak® on/off button. Then turn the steering wheel clockwise from the nine o'clock position to the three o'clock position. If this clears the message(s), your vehicle does not need servicing. If this does not clear the message(s), then turn the vehicle off, wait 15 seconds, and then turn it back on again to reset the system. If any of these messages still appear on the Driver Information Center (DIC), your vehicle should be taken in for service. For more information on the DIC messages, see *Driver Information Center (DIC) on page 258*.



The StabiliTrak® light will flash on the instrument panel cluster when the system is both on and activated.

You may also feel or hear the system working; this is normal.

The traction control disable button is located on the instrument panel below the climate controls.

The traction control part of StabiliTrak® can be turned off by pressing and releasing the StabiliTrak® button if both systems (traction control and StabiliTrak®) were previously on. To disable both traction control and StabiliTrak®, press and hold the button for five seconds.

Traction
by press
button if
reason.

When th
off, the S
off or Sta
on the D
have bra
is off, bu
manage
Operatio

When th
off, you
of the bu

364

2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

OWNERS MANUAL PAGES

rak® light
the
anel cluster
stem is
activated.

working;

control
ocated
the climate

can be
e
ction control
o disable
re

51

Traction control and StabiliTrak® can be turned on by pressing and releasing the StabiliTrak® button if not automatically shut off for any other reason.

When the TCS or StabiliTrak® system is turned off, the StabiliTrak® light and the appropriate TCS off or StabiliTrak® off message will be displayed on the DIC to warn the driver. Your vehicle will still have brake-traction control when traction control is off, but will not be able to use the engine speed management system. See "Traction Control Operation" next for more information.

When the traction control system has been turned off, you may still hear system noises as a result of the brake-traction control coming on.

It is recommended to leave the system on for normal driving conditions, but it may be necessary to turn the system off if your vehicle is stuck in sand, mud, ice or snow, and you want to "rock" your vehicle to attempt to free it. It may also be necessary to turn off the system when driving in extreme off-road conditions where high wheel spin is required. See *If Your Vehicle is Stuck in Sand, Mud, Ice, or Snow on page 406*.

When the transfer case is in 4LO, the stability system is automatically disabled, the StabiliTrak® light will come on and the STABILITRAK OFF message will appear on the DIC. Both traction control and StabiliTrak® are automatically disabled in this condition.

2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

OWNERS MANUAL PAGES

Traction Control Operation

The traction control system is part of the StabiliTrak® system. Traction control limits wheel spin by reducing engine power to the wheels (engine speed management) and by applying brakes to each individual wheel (brake-traction control) as necessary.

The traction control system is enabled automatically when you start your vehicle. It will activate and the StabiliTrak® light will flash if it senses that any of the wheels are spinning or beginning to lose traction while driving. If you turn off traction control, only the brake-traction control portion of traction control will work. The engine speed management will be disabled. In this mode, engine power is not reduced automatically and the driven wheels can spin more freely. This can cause the brake-traction control to activate constantly.

Notice: **If you allow the wheel(s) of one axle to spin excessively while the StabiliTrak®, ABS and brake warning lights and the SERVICE STABILITRAK message are displayed, you could damage the transfer case. The repairs would not be covered by your warranty. Reduce engine power and do not spin the wheel(s) excessively while these lights and this message are displayed.**

The traction control system may activate on dry or rough roads or under conditions such as heavy acceleration while turning or abrupt upshifts/downshifts of the transmission. When this happens, you may notice a reduction in acceleration, or may hear a noise or vibration. This is normal.

If your vehicle is in cruise control when the system activates, the StabiliTrak® light will flash and the cruise control will automatically disengage. When road conditions allow you to use cruise again, you may re-engage the cruise control. See *Cruise Control on page 210.*

StabiliTrak® may also turn off automatically if it determines that a problem exists with the system. If the problem does not clear itself after restarting the vehicle, you should see your dealer for service.

Steering

Power S

If you lose engine sto can steer

Steering

It is impor speed.

A lot of th mentionec Here is wl

Experienc subject to on curves road surfa change its there is n going in t tried to st understar

2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

OWNERS MANUAL PAGES

You can choose among five driving settings:

Indicator lights in the switches show you which setting you are in. The indicator lights will come on briefly when you turn on the ignition and the last chosen setting will stay on. If the lights do not come on, you should take your vehicle in for service. An indicator light will flash while shifting. Fast flashing means the conditions were not met to make the desired shift, typically the vehicle was going too fast, the automatic transmission was not in neutral. or the clutch pedal was not fully pressed. Slow flashing means the shift is in progress. It will stay on when the shift is completed. If for some reason the transfer cannot make a requested shift, it will return to the last chosen setting.

2 ↑ (Two-Wheel Drive High): This setting is used for driving in most street and highway situations. Your front axle is not engaged in two-wheel drive. This setting also provides the best fuel economy.

AUTO (Automatic Four-Wheel Drive): This setting is ideal for use when road surface traction conditions are variable. When driving your vehicle in AUTO, the front axle is engaged, but the vehicle's power is primarily sent to the rear wheels. When the vehicle's software determines a need for more traction, the system will transfer more power to the front wheels. Driving in this mode results in slightly lower fuel economy than Two-Wheel Drive High.

4 ↑ (Four-Wheel Drive High): Use the four-wheel high position when you need extra traction, such as on snowy or icy roads or in most off-road situations. This setting also engages your front axle to help drive your vehicle. This is the best setting to use when plowing snow.

4 ↓ (Four-Wheel Drive Low): This setting also engages your front axle and delivers extra torque. You may never need this setting. It sends maximum power to all four wheels. You might choose Four-Wheel Drive Low if you are driving off-road in deep sand, deep mud, deep snow, and while climbing or descending steep hills. StabiliTrak® will not engage in this mode. See *StabiliTrak® System on page 363* for more information.

2007 CHEVROLET
AVALANCHE
FMVSS 126
NHTSA No.: C70118
SEPTEMBER 2007

OWNERS MANUAL PAGES

7.2 VEHICLE ARRIVAL CONDITION REPORT

CONTRACT NO. DTNH22- 07-P-00332 DATE: 8-20-07

FROM: Event Vehicles (Leasing Company)

TO: TRC

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

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2007 Chevrolet Avalanche MPV

MANUFACTURE DATE: 05/06 NHTSA NO.: C70118

BODY COLOR: pewter VIN: 3GNFK12307G113557

ODOMETER READING: 45 miles GVWR: 3266 KG

PURCHASE PRICE: $ (leased) DEALER'S NAME: (leased)

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: Jason Church DATE: 8-20-07

APPROVED BY: Jeff Sankey DATE: 10-15-07

7.3 VEHICLE COMPLETION CONDITION REPORT

CONTRACT NO. DTNH22- 07-P-00332 DATE: 9-27-07

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2007 Chevrolet Avalanche MPV

MANUFACTURE DATE: 05/06 NHTSA NO.: C70118

BODY COLOR: pewter VIN: 3GNFK12307G113557

ODOMETER READING: 164 miles GVWR: 3266 KG

LIST OF FMVSS TESTS PERFORMED BY THIS LAB: 126

X THERE ARE NO DENTS OR OTHER INTERIOR OR EXTERIOR FLAWS

X THE VEHICLE HAS BEEN PROPERLY MAINTAINED 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

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: Jason Church DATE: 9-27-07
APPROVED BY: Jeff Sankey DATE: 10-15-07

7.4 SINE WITH DWELL TEST RESULTS

2007 Chevrolet Avalanche

NHTSA No.: C70118

Date Created 29-Aug-07

File	SWA @ 5deg Ct	MES	Time@5deg	COS	Time@COS	MOS	Time@MOS	YRR1(%)	YR1 (deg/sec)	YRR1 Ct	YRR175(%)	YR175 (deg/sec)
14	1501	50.22631	7.49921485	1883	9.40923969	1639	8.18956266	-0.73689	-0.105759265	2083	-0.3406684	-0.048893093
15	1710	50.14498	8.54262086	2093	10.4577381	1849	9.23814216	-0.73945	-0.140998709	2293	-0.8405674	-0.160280871
16	1764	50.12923	8.81145694	2147	10.7296148	1904	9.51044684	-0.38204	-0.094239056	2347	-0.7936234	-0.195765671
17	1812	50.20021	9.05304677	2196	10.9723216	1952	9.75396432	1.862981	0.559204568	2396	-0.3825053	-0.11481527
18	1651	50.27794	8.24753002	2035	10.1676783	1791	8.94973602	2.124788	0.757428016	2235	-0.097266	-0.034672625
19	1726	50.20547	8.62429404	2110	10.5444356	1867	9.32691196	2.221153	0.874475826	2310	-0.1354432	-0.053324476
20	1675	50.14032	8.36523252	2059	10.2853064	1815	9.06823168	-7.21378	-3.0396973	2259	-1.3679921	-0.576435878
21	1900	50.22721	9.4902719	2284	11.4128599	2040	10.1935295	-8.26371	-3.679493335	2484	-1.808386	-0.805200316
22	2050	50.35561	10.2428908	2435	12.1666685	2191	10.9465141	-10.7342	-5.012401264	2635	-1.0749958	-0.501976193
23	1609	50.17747	8.03703007	1994	9.96123592	1750	8.74114828	-13.7256	-6.618077158	2194	-1.5467287	-0.745786695
24	1631	50.27539	8.14992543	2016	10.074678	1772	8.85398121	-10.2688	-5.099126165	2216	-1.02076	-0.50687143
25	1472	50.21154	7.35043426	1857	9.27572149	1612	8.05453024	-0.13785	-0.067835676	2057	0.6825435	0.335874557
26	1940	50.16389	9.69070776	2322	11.6014053	2078	10.3818282	-0.79775	0.114717213	2522	0.5198732	-0.074758591
27	1692	50.14354	8.45300414	2075	10.3684446	1831	9.14909578	-0.28428	0.056291092	2275	-0.6794116	0.134530986
28	1636	50.31866	8.1703614	2019	10.0888054	1775	8.86965724	-0.92319	0.233955312	2219	-0.820882	0.208029472
29	1849	50.24844	9.23868206	2233	11.1584153	1989	9.93992223	0.023383	-0.007263315	2433	-0.3482628	0.108179317
30	1727	50.31531	8.62613406	2111	10.5463147	1867	9.32831543	2.832236	-1.044100578	2311	0.0335824	-0.012380096
31	1835	50.22227	9.16542586	2219	11.0854452	1975	9.86819046	2.940309	-1.155378921	2419	-0.1695317	0.066616597
32	1466	50.18292	7.32362695	1850	9.24363573	1607	8.02674522	0.884461	-0.377714722	2050	0.5991924	-0.255888827
33	2124	50.16686	10.6134354	2508	12.5333111	2265	11.3166899	2.61917	-1.16783145	2708	-0.2039412	0.090932994
34	1896	50.3665	9.47424696	2280	11.3947637	2037	10.1774456	-5.89703	2.812125615	2480	-0.060872	0.029028149
35	1989	50.2095	9.93701403	2373	11.8575256	2130	10.640593	-7.34182	3.665651545	2573	-0.8144086	0.406621144
36	1534	50.1383	7.66081427	1918	9.58233798	1674	8.36456281	-5.45659	2.823778884	2118	-0.8405563	0.43498722
37	1893	50.25156	9.45655763	2277	11.3778072	2034	10.1605546	-8.05284	4.120491468	2477	-0.9725576	0.497639987

7.4 SINE WITH DWELL TEST RESULTS

2007 Chevrolet Avalanche

NHTSA No.: C70118

Date Created 29-Aug-07

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)
14	2233	14.35210879	1738	-3.9856763	0.353818634	61.97381142	1568	61.97670674
15	2443	19.06817556	1943	-5.1256741	0.412440652	82.01153893	1778	81.93053145
16	2497	24.66732667	1996	-6.1944702	0.459472758	103.2107833	1832	103.1281859
17	2546	30.01665024	2050	-7.0881552	0.438628624	123.1313806	1881	123.0442051
18	2385	35.64722894	1887	-7.6400042	0.426323444	144.1042364	1720	144.0602034
19	2460	39.37035609	1960	-7.9472764	0.456243433	164.0357713	1795	164.0620743
20	2409	42.13737037	1907	-8.0900534	0.473260223	185.1459038	1744	184.9609171
21	2634	44.52590854	2131	-8.2394604	0.518907313	205.330504	1969	205.1525701
22	2785	46.69564329	2284	-8.3149326	0.486672676	226.0112957	2119	226.194186
23	2344	48.21703293	1840	-8.3369131	0.509148123	245.7656088	1678	246.1238731
24	2366	49.65628082	1861	-8.3189122	0.536611321	266.1126865	1702	267.068177
25	2207	49.20925502	1703	-8.3293271	0.499296237	268.7610284	1542	270.0914224
26	2672	-14.3801574	2172	3.9834668	-0.327079732	62.71890317	2006	62.42673088
27	2425	-19.80110284	1926	5.1483198	-0.371047332	82.65648558	1760	82.41688062
28	2369	-25.34218913	1869	6.1976082	-0.382446099	103.8829585	1704	103.663284
29	2583	-31.06255023	2087	6.8798061	-0.337944292	123.9148116	1918	123.4957395
30	2461	-36.86488671	1970	7.4561744	-0.306462359	144.9499494	1796	144.4310386
31	2569	-39.29447651	2070	7.794759	-0.387202152	164.9402344	1904	164.321746
32	2200	-42.70562038	1702	7.9959436	-0.386168444	185.923969	1535	185.3366592
33	2858	-44.58785236	2359	8.1958427	-0.452865093	206.1323974	2193	205.5664828
34	2630	-47.68718916	2133	8.1481675	-0.444408247	226.9847638	1966	226.4490633
35	2723	-49.9283968	2225	8.3475805	-0.426427749	246.7314963	2058	246.4503189
36	2268	-51.74992319	1769	8.3835971	-0.42905423	266.8572133	1604	267.4825852
37	2627	-51.16817582	2127	8.3717951	-0.450370089	269.7584316	1963	270.4573733

7.5 SLOWLY INCREASING STEER TEST RESULTS

2007 Chevrolet Avalanche

NHTSA No.: C70118

Date Created 29-Aug-07

File	Vehicle	EventPt	DOS	MES [mph]	Mean SPD [mph]	AYcount	THETAENC [degree]	AYCG [g]	r_squared	ZeroBegin	ZeroEnd
6	2007 Chevrolet Avalanche	1305	1	49.858757	50.15107007	2003	-40.96443565	-0.30101	0.99816	1105	1305
7	2007 Chevrolet Avalanche	1070	1	49.881978	49.82434361	1738	-41.15472666	-0.29683	0.999398	870	1070
8	2007 Chevrolet Avalanche	1455	1	50.051393	49.90380708	2080	-41.40437287	-0.30186	0.998914	1255	1455
10	2007 Chevrolet Avalanche	930	0	50.386186	49.70177229	1529	40.64670321	0.306305	0.997977	730	930
11	2007 Chevrolet Avalanche	968	0	50.146943	49.74780565	1576	41.2339814	0.306183	0.997702	768	968
12	2007 Chevrolet Avalanche	1692	0	49.508663	49.73989244	2286	40.32188713	0.300517	0.999378	1492	1692
	Averages						41	0.302117			

Scalars	Steering Angles (deg)
1.5	62
2	82
2.5	103
3	123
3.5	144
4	164
4.5	185
5	205
5.5	226
6	246
6.5	267
6.6	270

7.6 INERTIAL SENSING SYSTEM LOCATION COORDINATES

2007 Chevrolet Avalanche

NHTSA No.: C70118

Device : N10-02-03-01310
device version : 1.55
device certification date : 12/04/06
today is : 08/28/07
units : Millimeters

Label	ActualX	ActualY	ActualZ
C_DEVICEPOS001			
M_PLANE001	1294.8507	-728.3129	-368.5777
M_LINE001	949.8418	45.8494	59.1258
M_FRT_AXLE_ORIGIN	0	0	0
C_COORDSYS001	0	0	0
M_LEFT_FRT_TIRE_TREAD_CENT	385.0532	60.9428	-121.6581
M_TOP_OF_SENSOR	1265.5676	927.0174	488.1646
M_TOP_OF_ROOF	2457.3549	929.3657	1497.5297
M_FLOOR	2246.9828	-448.3425	-369.6647
Track Width	[redacted]	1743	[redacted]
Roof Height (relative to ground)			1867.1944
Motion Pak - x-distance	1265.5676		
Motion Pak - y-distance		-5.4254	
Motion Pak - z-distance			768.9293