

**SECTION 1**  
**TEST SUMMARY**

A rigid barrier was impacted by a 2010 Ford Transit Connect XLT Wagon at a velocity of 48.6 km/h. The test was performed at MGA Research Corporation on September 15, 2009. Pre-and post-test photographs of the vehicle can be found in Appendix A.

One real-time camera and five high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in this report.

Two ballast dummies were placed in the driver and right-front passenger seating positions.

There was no Stoddard Solvent leakage after the event or during any phase of the static rollover.

**SECTION 2**  
**VEHICLE INFORMATION / DATA SHEETS**

Test Vehicle: 2010 Ford Transit Connect XLT Wagon    Test Date: 9/15/2009  
 Test Program: 30 mph Frontal

**CONVERSION FACTORS USED IN THIS REPORT\***

Quantity	Typical Application	English Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Pressure	Tire Pressure	lbf/in <sup>2</sup>	kPa	7.0
Temperature	General Use	°F	°C	$=(tf - 32)/1.8$
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

\*Based on the Recommended Practice in SAE J916, May 85

**DATA SHEET NO. 1**  
**CRASH TEST SUMMARY**

Test Vehicle: 2010 Ford Transit Connect XLT Wagon Test Date: 9/15/2009  
 Test Program: 30 mph Frontal

**TEST SPEED**

Measured Parameter	Units	Value
Trap No. 1 Velocity (Primary)	km/h	48.6
Trap No. 2 Velocity (Redundant)	km/h	48.6

**FUEL TANK CAPACITY DATA**

The "Usable Capacity" of the standard equipment fuel tank is: 56.8 liters

Actual amount of Stoddard solvent added to vehicle for certification test: 52.6 liters

**DOOR OPENING AND SEAT TRACK INFORMATION**

Description	Driver	Passenger
Front Door Opening	Door remained closed and latched; Door opened without tools	Door remained closed and latched; Door opened without tools
Rear Door Opening	Door remained closed and latched; Door opened without tools	Door remained closed and latched; Door opened without tools
Seat Track Shift (mm)	None	None
Seat Back Failure	None	None

**TEST VEHICLE ATTITUDES**

	Units	LF	RF	LR	RR
As Delivered	mm	707	710	755	764
As Tested	mm	698	700	732	736
Post Test	mm	728	743	735	721

**DATA SHEET NO. 2**  
**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2010 Ford Transit Connect XLT Wagon    Test Date: 9/15/2009  
 Test Program: 30 mph Frontal

**TEST VEHICLE INFORMATION**

Manufacturer	Ford Motor Company
Model	Transit Connect XLT Wagon
VIN	NM0KS9BN7AT000042
Transmission	Automatic
Final Drive	Front
Number of Cylinders	4
Engine (L)	2.0
Engine Placement	Lateral

**TEST VEHICLE OPTIONS**

Driver Airbag	Yes
Passenger Airbag	Yes
Power Windows	Yes
Power Steering	Yes
Power Door Locks	Yes
Tilt Wheel	Yes
Air Conditioning	Yes
Power Brakes	Yes

**TIRE DATA**

Measured Parameter	Front	Rear
Cold Pressure (kPa)	250	340
Tire Size on Vehicle	P205/65R15	P205/65R15
Tire Manufacturer	Continental	Continental

**TEST VEHICLE WEIGHTS**

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	440.9	408.7		489.4	516.7	
Right	kg	416.4	403.3		455.0	500.3	
Ratio	%	52.2	47.8		48.1	51.9	
Totals	kg	857.3	812.0	1669.3	944.4	1017.0	1961.4

Vehicle Wheelbase (mm): 2924

Weight of Ballast secured in cargo area (kg): 147.4

**DATA SHEET NO. 3**  
**SUMMARY OF C/FMVSS 301 DATA**

Test Vehicle: 2010 Ford Transit Connect XLT Wagon Test Date: 9/15/2009  
 Test Program: 30 mph Frontal

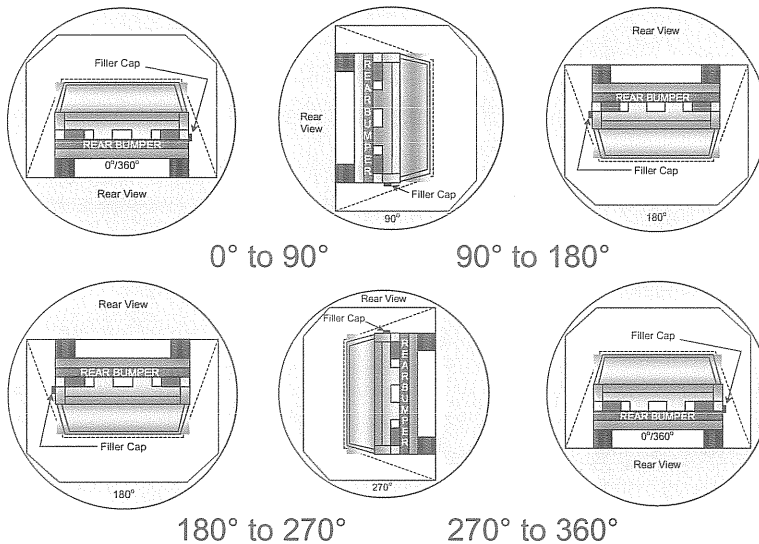
**C/FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA**

Temperature at Time of Impact: 21° C

Stoddard Solvent Spillage Measurements

- A. From impact until vehicle motion ceases: 0 oz.  
 (Maximum Allowable = 1 ounce)
- B. For the 5 minute period after motion ceases: 0 oz.  
 (Maximum Allowable = 5 ounces)
- C. For the following 25 minutes: 0 oz.  
 (Maximum Allowable = 1 oz. /minute)
- D. Spillage: None

**C/FMVSS 301 STATIC ROLLOVER DATA**



1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.

2. The position hold time at each position is 300 seconds (minimum).

3. Details of Stoddard Solvent spillage locations:  
**None**

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° to 90°	127	300	0
90° to 180°	116	300	0
180° to 270°	112	300	0
270° to 360°	118	300	0

**DATA SHEET NO. 4**  
**VEHICLE MEASUREMENTS**

Test Vehicle: 2010 Ford Transit Connect XLT Wagon      Test Date: 9/15/2009  
Test Program: 50 mph Rear

**VEHICLE MEASUREMENTS**

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	4488	4090	398
C2	Crush zone 2 at left side	mm	4540	4094	446
C3	Crush zone 3 at left side	mm	4557	4079	478
C4	Crush zone 4 at right side	mm	4555	4052	503
C5	Crush zone 5 at right side	mm	4537	4058	479
C6	Crush zone 6 at right side	mm	4484	4009	475
L	C1 TO C6	mm	1080	1103	-23

**DATA SHEET NO. 5**  
**CAMERA LOCATIONS**

Test Vehicle: 2010 Ford Transit Connect XLT Wagon    Test Date: 9/15/2009  
 Test Program: 30 mph Frontal

No.	Camera View	Location (mm) *			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Left Front Half	1270	-5305	1320	24	1000
2	Right Overall	2120	6665	1285	20	1000
3	Right Front Half	1310	5430	1290	24	1000
4	Pit Front	1100	0	-3150	24	1000
5	Pit Rear	3400	0	-3150	24	1000
6	Real-Time				13	24

\*COORDINATES:

- +X = film plane rearward of barrier
- +Y = film plane to right of monorail centerline
- +Z = film plane above ground level