**Abstract**

Compliance tests were conducted on the subject 2006 Ford Fusion Passenger Car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214S-05 for the determination of FMVSS 214 compliance. Test failures identified were as follows:

NONE

**Key Words**

Compliance Testing  
Safety Engineering  
FMVSS 214

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Form DOT F 1700.7 (8-72)
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SECTION 1
INTRODUCTION

1.0 PURPOSE OF COMPLIANCE TEST

A 2006 Ford Fusion 4-door passenger car was subjected to Federal Motor Vehicle Safety Standard (FMVSS) No. 214 testing to determine if the vehicle was in compliance with the requirements of the standard. FMVSS No. 214 establishes requirements for the side doors of a Motor Vehicle to minimize the safety hazard caused by intrusion into the passenger compartment as a result of a side impact accident.

1.1 TEST VEHICLE

The test vehicle was a 2006 Ford Fusion 4-door passenger car. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 3FAFP06Z65R135176

B. NHTSA No.: C60202

C. Manufacturer: FORD MOTOR COMPANY

D. Manufacture Date: 12/05

The vehicle’s front and rear seating systems were removed for this test. All vehicle windows were closed and all doors were locked for this test.

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 214 testing on June 28, 2006.
SECTION 2
TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 TEST PROCEDURE

All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedure, TP-214S-05 dated 14 September 1993 and General Testing Laboratories, Inc. (GTL) Test Procedure, TP-214S-05, "Static – Side Impact Protection".

Each vehicle shall be able to meet the requirements of either, at the manufacturer's option, 2.1 or 2.2 when any of its side doors that can be used for occupant egress are tested.

2.1 OPTION ONE

With any seats that may affect load upon or deflection of the side of the vehicle removed from the vehicle, each vehicle must be able to meet the requirements of 2.1.1 through 2.1.3.

2.1.1 INITIAL CRUSH RESISTANCE

The initial crush resistance shall not be less than 2,250 pounds.

2.1.2 INTERMEDIATE CRUSH RESISTANCE

The intermediate crush resistance shall not be less than 3,500 pounds.

2.1.3 PEAK CRUSH RESISTANCE

The peak crush resistance shall not be less than two times the curb weight of the vehicle or 7,000 pounds, whichever is less.

2.2 OPTION TWO

With seats installed in the vehicle, and located in any horizontal or vertical position to which they can be adjusted and at any seat back angle to which they can be adjusted, each vehicle must be able to meet the requirements of 2.2.1 through 2.2.3.

2.2.1 INITIAL CRUSH RESISTANCE

The initial crush resistance shall not be less than 2,250 pounds.

2.2.2 INTERMEDIATE CRUSH RESISTANCE

The intermediate crush resistance shall not be less than 4,375 pounds.
SECTION 2 CONTINUED

2.2.3 PEAK CRUSH RESISTANCE

The peak crush resistance shall not be less than three and one half times the curb weight of the vehicle or 12,000 pounds, whichever is less.
DATA SHEET 1
TEST VEHICLE RECEIVING-INSPECTION

VEH. MOD YR/MAKE/MODEL/BODY: 2006 FORD FUSION PASSENGER CAR
VEH. NHTSA NO.: C60202; VIN: 3FAFP06Z56R135176
VEH. BUILD DATE: 12/05; TEST DATE: JUNE 28, 2006
TEST LABORATORY: GENERAL TESTING LABS
OBSERVERS: G. FARRAND, J. LATANE, J. GIBSON

A. First compliance test by laboratory for this vehicle is the static FMVSS 214 test.

___ Yes     ___ No (Go to item 2)

X (1) Label test vehicle with NHTSA Number

X (2) Verify all options on the "window sticker" are present on the vehicle

X (3) Verify tires and wheel rims are new and the same as listed

X (4) Verify there are no dents or other interior or exterior flaws

X (5) Verify the glove box contains an owner's manual, warranty document, consumer information, and extra keys

X (6) Verify the vehicle is equipped with the proper fuel filler cap

X (7) If the vehicle has been delivered from the dealer, verify the vehicle has been properly prepared and is in running condition

B. Verify seat adjusters are working

___ Yes     ___ No

C. Verify there is a seat belt at each seating position

___ Yes     ___ No

D. Without disturbing the integrity of each seat belt and anchorage, verify that each seat belt is attached to the anchorage. For seat belts that are attached to the seat, also verify the seats are attached to the seat anchors and the seat anchors are attached to the vehicle.

___ Yes     ___ No

E. Curb Weight of Vehicle: 3280 LBS.

F. COMMENTS: (Explain any problems here)

RECORDED BY: G. FARRAND  DATE: 06/28/06
APPROVED BY: D. MESSICK
DATA SHEET 2
PRETEST PREPARATION

VEH. MOD YR/MAKE/MODEL/BODY: 2006 FORD FUSION PASSENGER CAR
VEH. NHTSA NO.: C60202; VIN: 3FAFP06Z56R135176
VEH. BUILD DATE: 12/05; TEST DATE: JUNE 28, 2006
TEST LABORATORY: GENERAL TESTING LABS
OBSERVERS: G. FARRAND, J. LATANE, J. GIBSON

Prior to testing the following will be accomplished:

TEST

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>B.</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>C.</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>D.</td>
<td>☑</td>
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</tr>
<tr>
<td>E.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.</td>
<td>43.0</td>
<td>29.0</td>
</tr>
<tr>
<td>G.</td>
<td>5&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>H.</td>
<td>21.5</td>
<td>14.5</td>
</tr>
<tr>
<td>I.</td>
<td></td>
<td>☑</td>
</tr>
<tr>
<td>J.</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>

RECORDED BY: G. FARRAND
DATE: 06/28/06
APPROVED BY: D. MESSICK
DATA SHEET 3
STATIC LOAD TEST - BACK-UP SYSTEM DATA

VEH. MOD YR/MAKE/MODEL/BODY: 2006 FORD FUSION PASSENGER CAR
VEH. NHTSA NO.: C60202; VIN: 3FAFP06Z56R135176
VEH. BUILD DATE: 12/05; TEST DATE: JUNE 28, 2006
TEST LABORATORY: GENERAL TESTING LABS
OBSERVERS: G. FARRAND, J. LATANE, J. GIBSON

RESULTS: Plots of load versus displacement and time versus displacement obtained from the back-up data (attach plots to data sheet) showed that:

TEST #1 - GTL #5581 (LEFT FRONT DOOR)
A. The initial crush resistance was 2889 lbs.
B. The intermediate crush resistance was 5108 lbs.
C. The peak crush resistance was 12,043 lbs at 12.60 inches
D. The rate of loading was .2"/sec

The dial indicator and the inclinometer showed the following deflections:

<table>
<thead>
<tr>
<th>LOADING DEVICE TRAVEL</th>
<th>DIAL INDICATOR</th>
<th>INCLINOMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 inches</td>
<td>0.0000</td>
<td>0</td>
</tr>
<tr>
<td>2 inches</td>
<td>0.0230</td>
<td>0</td>
</tr>
<tr>
<td>4 inches</td>
<td>0.0890</td>
<td>0</td>
</tr>
<tr>
<td>6 inches</td>
<td>0.0990</td>
<td>0</td>
</tr>
<tr>
<td>12 inches</td>
<td>0.3250</td>
<td>0</td>
</tr>
<tr>
<td>12.6 inches (full travel)</td>
<td>0.3370</td>
<td>0</td>
</tr>
<tr>
<td>0 inches (removal)</td>
<td>0.0657</td>
<td>0</td>
</tr>
</tbody>
</table>

TEST #2 - GTL #5582 (RIGHT REAR DOOR)
A. The initial crush resistance was 3194 lbs.
B. The intermediate crush resistance was 6425 lbs.
C. The peak crush resistance was 12,762 lbs at 11.90 inches
D. The rate of loading was .2"/sec
The dial indicator and the inclinometer showed the following deflections.

<table>
<thead>
<tr>
<th>LOADING DEVICE TRAVEL</th>
<th>DIAL INDICATOR</th>
<th>INCLINOMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 inches</td>
<td>0.0000</td>
<td>0</td>
</tr>
<tr>
<td>2 inches</td>
<td>0.0015</td>
<td>0</td>
</tr>
<tr>
<td>4 inches</td>
<td>0.0030</td>
<td>0</td>
</tr>
<tr>
<td>6 inches</td>
<td>0.0052</td>
<td>0</td>
</tr>
<tr>
<td>12 inches</td>
<td>0.1910</td>
<td>0</td>
</tr>
<tr>
<td>12.50 inches (full travel)</td>
<td>0.2488</td>
<td>0</td>
</tr>
<tr>
<td>0 inches (removal)</td>
<td>0.1227</td>
<td>0</td>
</tr>
</tbody>
</table>

RECORDED BY:  G. FARRAND  DATE:  06/28/06
APPROVED BY:  D. MESSICK
DATA SHEET 4
DATA REDUCTION

VEH. MOD YR/MAKE/MODEL/BODY: 2006 FORD FUSION PASSENGER CAR
VEH. NHTSA NO.: C60202; VIN: 3FAFP06Z56R135176
VEH. BUILD DATE: 12/05; TEST DATE: JUNE 28, 2006
TEST LABORATORY: GENERAL TESTING LABS
OBSERVERS: G. FARRAND, J. LATANE, J. GIBSON

Data from the primary data systems will be analyzed and the plots attached to the data sheet.

RESULTS - The load versus displacement plot showed that - -

TEST #1 - GTL #5581 (LEFT FRONT DOOR)
A. The initial crush resistance was 2899 lbs.
B. The intermediate crush resistance was 5130 lbs.
C. The peak crush resistance was 12,047 lbs at 12.60 inches

The time versus displacement plot showed that - -

The rate of loading was .2"/sec

TEST #2 - GTL #5582 (RIGHT REAR DOOR)
A. The initial crush resistance was 3196 lbs.
B. The intermediate crush resistance was 6458 lbs.
C. The peak crush resistance was 12,782 lbs at 11.80 inches

The time versus displacement plot showed that - -

The rate of loading was .2"/sec

Comparison of the ABOVE DATA with the BACKUP DATA indicates the following - -

Primary and Backup data agree.

RECORDED BY: G. FARRAND DATE: 06/28/06
APPROVED BY: D. MESSICK
## SECTION 4

### TEST EQUIPMENT LIST

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>DESCRIPTION</th>
<th>MODEL/ SERIAL NO.</th>
<th>CAL. DATE</th>
<th>NEXT CAL. DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPUTER</td>
<td>AT&amp;T</td>
<td>486DX266</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>TEST FIXTURE</td>
<td>GTL 214</td>
<td>214</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>A/D INTERFACE</td>
<td>METRABYTE</td>
<td>DAS-16(F)</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>SCALES</td>
<td>FAIRBANKS</td>
<td>N/A</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
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<td>SIGNAL CONDITIONER</td>
<td>METRABYTE</td>
<td>EXP-RES</td>
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<td>BEFORE USE</td>
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<tr>
<td>LOAD CELLS</td>
<td>REVERE</td>
<td>44243A 44243B</td>
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<td>12/06</td>
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<td>LINEAR POT.</td>
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<td>123456A 123456B</td>
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<tr>
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<td>STARRETT</td>
<td>360/002</td>
<td>05/06</td>
<td>05/07</td>
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<td>DIAL INDICATOR</td>
<td>MIOTO</td>
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SECTION 5

PHOTOGRAPHS
FIGURE 5.2
LEFT SIDE VIEW OF VEHICLE PRE-TEST
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.3
RIGHT SIDE VIEW OF VEHICLE PRE-TEST
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.5
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE
PRE-TEST
MFD. BY FORD MOTOR CO.

DATE: 12/05  GVWR: 1923KG/4240LB
FRONT GAWR: 1030KG/2270LB  REAR GAWR: 916KG/2020LB

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR
VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION STANDARDS.
IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: 3FAFP06Z56R135176  TYPE: Passenger Car
MAXIMUM LOAD = OCCUPANTS + LUGGAGE = 385KG/850LB
OCCUPANTS = 5 TOTAL;  2 FRONT, 3 REAR

TIRE (FR): P205/60R16  RIMS (FR): 16X6.5J
           (RR): P205/60R16  (RR): 16X6.5J
PRESSURE (FR): 235 kPa/ 34 PSI COLD  (RR): 235 kPa/ 34 PSI COLD

TRAILER TOWING - SEE OWNER GUIDE
EXT PNT: T8  RC: 27  DSQ:  F0079
INT TR  TP/PS  R AXLE  TR  SPR  6DE1F
        AL  F  3B  C  AA11  40A
        CMC  US5A-5420472-AA

2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.7
VEHICLE CERTIFICATION LABEL
**TIRE AND LOADING INFORMATION**

**SEATING CAPACITY**
- Total: 5
- Front: 2
- Rear: 3

The combined weight of occupants and cargo should never exceed: 385 kg or 850 lbs.

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<tr>
<th>TIRE</th>
<th>SIZE</th>
<th>COLD TIRE PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRONT</td>
<td>P205/60R16</td>
<td>235 KPA, 34 PSI</td>
</tr>
<tr>
<td>REAR</td>
<td>P205/60R16</td>
<td>235 KPA, 34 PSI</td>
</tr>
<tr>
<td>SPARE</td>
<td>T145/80D16</td>
<td>415 KPA, 60 PSI</td>
</tr>
</tbody>
</table>

SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION

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2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.8
VEHICLE TIRE INFORMATION LABEL
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.9
VEHICLE VIN PLATE
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.10
INSTRUMENTATION SET-UP
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.11
REAR VEHICLE TIE DOWN – TEST 1
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.12
FRONT VEHICLE TIE DOWN – TEST 1
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.13
LOAD DEVICE AGAINST DOOR – PRE-TEST 1
FIGURE 5.14
LOAD DEVICE AGAINST DOOR @ MAX LOAD - TEST 1

2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214
FIGURE 5.15
DIAL INDICATOR AT MAX LOAD – TEST 1
FIGURE 5.20
LOAD DEVICE AGAINST DOOR – PRE-TEST 2
FIGURE 5.21
LOAD DEVICE AGAINST DOOR @ MAX LOAD - TEST 2
FIGURE 5.22
DIAL INDICATOR AT MAX LOAD – TEST 2
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.23
POST TEST DOOR OUTSIDE – TEST 2
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.26
LEFT SIDE VIEW OF VEHICLE POST TEST
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.27
RIGHT SIDE VIEW OF VEHICLE POST TEST
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.28
REAR VIEW OF VEHICLE POST TEST
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.29
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE
POST TEST
2006 FORD FUSION
NHTSA NO. C60202
FMVSS NO. 214

FIGURE 5.30
¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE
POST TEST
SECTION 6

TEST DATA PLOTS