SAFETY COMPLIANCE TESTING FOR FMVSS NO. 138
TIRE PRESSURE MONITORING SYSTEMS

HONDA MOTOR COMPANY, LTD.
2009 HONDA FIT
FIVE-DOOR PASSENGER CAR
NHTSA NO. C95302

U.S. DOT SAN ANGELO TEST FACILITY
131 COMANCHE TRAIL, BUILDING 3527
GOODFELLOW AFB, TEXAS 76908

February 23, 2009

FINAL REPORT

PREPARED FOR
U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
NVS-220
OFFICE OF VEHICLE SAFETY COMPLIANCE
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Prepared By: Doris Beebe

Approved By: [Signature]

Accepted By: [Signature]

Acceptance Date: 2/23/09
Compliance tests were conducted on the subject 2009 Honda Fit five-door passenger car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-138-03 for the determination of FMVSS 138 compliance. Test failures identified were as follows: NONE.
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</tr>
</tbody>
</table>
SECTION 1
INTRODUCTION

1.1 PURPOSE OF COMPLIANCE TEST

A 2009 Honda Fit five-door passenger car was tested to determine if the vehicle was in compliance with the requirements of FMVSS 138. All tests were conducted in accordance with NHTSA/Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure TP-138-03 dated July 12, 2007.

1.2 TEST VEHICLE

The test vehicle was a 2009 Honda Fit five-door passenger car. Nomenclatures applicable to the test vehicle are:

A. Vehicle Identification Number: JHMGE87229S021972

B. NHTSA Number: C95302

C. Manufacturer: Honda Motor Company, Ltd.

D. Manufacture Date: 10/2008

1.3 TEST DATE

The test vehicle was tested during the time period January 26 through February 11, 2009.
SECTION 2
TEST PROCEDURE AND SUMMARY OF RESULTS

2.1 TEST PROCEDURE

Prior to test, the test vehicle was inspected for completeness, systems operability, and appropriate fuel and liquid levels, i.e. oil and coolant. The vehicle was then photographically documented as required by the NHTSA/OVSC Test Procedure. Tire sidewall information was recorded. The owner’s manual was reviewed, and pertinent tire and TPMS information were noted. Telltale’s symbol, color, location and lamp function were checked. The vehicle does not have a telltale that identifies which tire is under-inflated.

Subsequent events included weighing the vehicle to establish the Unloaded Vehicle Weight (UVW) and the distribution of weight on the front and rear axles and each wheel position. The vehicle was loaded to its Lightly Loaded Vehicle Weight (LLVW) for three tire deflation scenarios. This LLVW included the weights of driver, one passenger, and test equipment. The vehicle was loaded to its Unloaded Vehicle Weight plus Vehicle Capacity Weight (VCW) for three additional tire deflation scenarios. The VCW included the weights of driver, one passenger, test equipment, ballast in the rear seat, and ballast in the rear cargo area. The vehicle is required to be loaded to its maximum capacity without exceeding either the Vehicle Capacity Weight or Gross Vehicle Weight Rating (GVWR). For determination of the telltale warning activation pressure, the recommended cold inflation pressure was identified from the vehicle placard.

The vehicle was instrumented with a Racelogic VBOX III 100 Hz GPS Data Logger and brake pedal trigger. The VBOX uses GPS to measure vehicle speed, time, and distance. Test data were recorded to a compact flash card. During the test, a stopwatch was used to determine the approximate “cumulative driving time” during each test phase. Cumulative driving time does not include time during the brake application or when the vehicle speed was below 50 km/h or above 100 km/h. Upon completion of a tire deflation scenario, graphs were generated by VBOX software showing vehicle speed versus time during the test procedures. The graphs furnish a second-by-second analysis of each calibration phase. The cumulative driving time was calculated by post-processing the VBOX graph data, and is reported in Section 3 (Test Data) as ‘Total Driving Time’. Driving above 50 km/h was not required for the detection or extinguishment phases.

The tire deflation test scenario consisted of four phases:

1. Calibration phase: Tires were set at vehicle placard cold inflation pressure and the vehicle was driven for at least twenty minutes of cumulative driving time between 50 and 100 km/h.
2. Detection phase: Immediately after calibration phase, the selected tire(s) were deflated to seven kPa (one psi) below the Telltale Warning Activation Pressure. After one minute, the inflation pressure(s) of only deflated tire(s) were rechecked and adjusted if necessary. The vehicle was started and driven as necessary.

3. Cool down phase: Vehicle was parked in the San Angelo Test Facility (SATF) open bay shielded from direct sunlight. Tires were allowed to cool down for a minimum of one hour. After cool down, the vehicle was started and the low tire pressure telltale was checked for re-illumination.

4. Extinguishment phase: Tires were adjusted to vehicle placard cold inflation pressure. The vehicle was started and driven as necessary.

One malfunction scenario was performed on the Honda Fit. This scenario was performed with the vehicle loaded to its LLVW. The malfunction was simulated by placing the compact spare tire, with no TPMS sensor, on the right front wheel position. The malfunction telltale properly operated within the requisite time period.

2.2 SUMMARY OF RESULTS

Three tire deflation scenarios were performed on the test vehicle at LLVW:
A. Left front
B. Left front and left rear
C. Left front, left rear, right rear, and right front

Three tire deflation scenarios were performed on the test vehicle at UVW + VCW:
D. Right rear
E. Left front and right front
F. Left rear, right rear, and right front

The data indicate compliance of the test vehicle’s tire pressure monitoring system for the six tire deflation scenarios tested.

One malfunction detection scenario was performed on the test vehicle at LLVW:
G. Spare tire without TPMS sensor was applied to right front wheel position.

In this scenario, the vehicle’s dedicated malfunction telltale properly operated per the standard’s requirements.
SECTION 3
TEST DATA
**FMVSS No. 138 – TEST DATA SUMMARY**

**TEST DATES:** January 26 – February 11, 2009  
**LAB:** U. S. DOT San Angelo Test Facility

**VIN:** JHMGE87229S021972  
**VEHICLE NHTSA NUMBER:** C95302

**CERTIFICATION LABEL BUILD DATE:** 10/2008

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>PASS/FAIL</th>
</tr>
</thead>
</table>
| LOW TIRE PRESSURE WARNING TELLTALE  
S138: S4.3.1 (a), (b); S4.3.3 (a), (b) | |
| Mounting | PASS |
| Symbol and color | PASS |
| Check of lamp function | PASS |
| MALFUNCTION TELLTALE  
S138: S4.4 (b) or (c) | |
| Mounting | PASS |
| Symbol and color | PASS |
| Check of lamp function | PASS |
| LOW TIRE PRESSURE WARNING - OPERATIONAL PERFORMANCE  
S138: S4.2, S4.3.1 (c), S4.3.2 | |
| Telltale illumination | PASS |
| MALFUNCTION INDICATOR – OPERATIONAL PERFORMANCE  
S138: S4.4 (a) | |
| Telltale illumination | PASS |
| TPMS WRITTEN INSTRUCTIONS  
S138: S4.5 | |
| Image of telltales | PASS |
| Verbatim statements | PASS |

**REMARKS:** None
DATA SHEET 1 (Sheet 1 of 3)
TEST PREPARATION INFORMATION

TEST DATE: January 28, 2009  LAB: U. S. DOT San Angelo Test Facility

VEHICLE NHTSA NUMBER: C95302  VIN: JHMGE8729S021972

CERTIFICATION LABEL BUILD DATE: 10/2008  ENGINE: 1.5 liter 4 cylinder

MY/MAKE/MODEL/BODY STYLE: 2009 Honda Fit five-door passenger car

TIRE CONDITIONING:
( X ) Tires used more than 100 km. Actual odometer reading: 267 km (166 mi)

VEHICLE ALIGNMENT AND WHEEL BALANCING:
Alignment checked: ( ) Front  ( ) Rear  ( X ) COTR waived
Wheels balanced: ( ) Front  ( ) Rear  ( X ) COTR waived

TPMS IDENTIFICATION:
TPMS MAKE/MODEL: TRW sensor, part #/model #42753-SNA-A83
Source: Manufacturer supplied information

TPMS TYPE: ( X ) Direct  ( ) Indirect  ( ) Other

Does TPMS require execution of a learning/calibration driving phase? ( )YES  ( X )NO
Source: Manufacturer supplied information

Does TPMS have a manual reset control? ( )YES  ( X )NO

TPMS MALFUNCTION INDICATOR TYPE:
( ) None  ( X ) Dedicated Telltale  ( ) Combination low tire pressure/malfunction telltale
DATA SHEET 1 (Sheet 2 of 3)
TEST PREPARATION INFORMATION

DESIGNATED TIRE SIZE(S) FROM VEHICLE LABELING AND OWNER’S MANUAL:

<table>
<thead>
<tr>
<th>Axle</th>
<th>Tire Size</th>
<th>Recommended Cold Inflation Pressure</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td>175/65R15</td>
<td>220 kPa (32 psi)</td>
<td>Vehicle placard</td>
</tr>
<tr>
<td>Rear</td>
<td>175/65R15</td>
<td>220 kPa (32 psi)</td>
<td>Vehicle placard</td>
</tr>
</tbody>
</table>

INSTALLED TIRE DATA
Diagram - Passenger Car Tire Labeling

Front and Rear Axles

Tire Size and Load Index / Speed Rating: 175/65R15 84S

Manufacturer/Tire Name: Dunlop SP31 A/S

Sidewall Max Load Rating: 500 kg (1,102 lbs)

Max Inflation Pressure: 300 kPa (44 psi)

Sidewall Construction (number of plies and ply material): 1 polyester

Tread Construction (number of plies and ply material): 1 polyester, 2 steel

Do all installed tires have the same sidewall information? (X)YES ( )NO

Are all installed tires the same as designated by the vehicle manufacturer on the vehicle placard? (X)YES ( )NO
**DATA SHEET 1 (Sheet 3 of 3)**
**TEST PREPARATION**

### Worksheet for Determining FMVSS No. 138 Telltale Warning Activation Pressure for Tires Installed on Vehicle

<table>
<thead>
<tr>
<th>Part</th>
<th>Front Axle</th>
<th>Rear Axle</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Recommended Inflation Pressure x .75</td>
<td>220 kPa x .75 = 165.0 kPa</td>
<td>220 kPa x .75 = 165.0 kPa</td>
</tr>
<tr>
<td>(B) Information from FMVSS 138 Table 1 below, Tire types are:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum activation pressures from Table 1</td>
<td>140 kPa (20 psi)</td>
<td>140 kPa (20 psi)</td>
</tr>
<tr>
<td>(C) Telltale Warning Activation Pressure is the higher of Part (A) or (B)</td>
<td>165.0 kPa (23.9 psi)</td>
<td>165.0 kPa (23.9 psi)</td>
</tr>
<tr>
<td>(D) Pressure at which to deflate tire(s) = (C) – 7 kPa</td>
<td>158.0 kPa (22.9 psi)</td>
<td>158.0 kPa (22.9 psi)</td>
</tr>
</tbody>
</table>

### FMVSS 138 Table 1 - Low Tire Pressure Warning Telltale - Minimum Activation Pressure

<table>
<thead>
<tr>
<th>Tire Type</th>
<th>Maximum or Rated Inflation Pressure</th>
<th>Minimum Activation Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(kPa)</td>
<td>(psi)</td>
</tr>
<tr>
<td>P-metric -- Standard Load</td>
<td>240, 300, or 350</td>
<td>35, 44, or 51</td>
</tr>
<tr>
<td>P-metric - Extra Load</td>
<td>280 or 340</td>
<td>41 or 49</td>
</tr>
<tr>
<td>Load Range C</td>
<td>350</td>
<td>51</td>
</tr>
<tr>
<td>Load Range D</td>
<td>450</td>
<td>65</td>
</tr>
<tr>
<td>Load Range E</td>
<td>550</td>
<td>80</td>
</tr>
</tbody>
</table>

REMARKS: None

RECORDED BY: Jack R. Stewart DATE: January 28, 2009

APPROVED BY: Kenneth H. Yates
DATA SHEET 2 (Sheet 1 of 2)
LOW TIRE PRESSURE WARNING AND MALFUNCTION TELLTALE

TEST DATE: January 28, 2009 LAB: U. S. DOT San Angelo Test Facility

VEHICLE NHTSA NUMBER: C95302

TPMS Low Tire Pressure Warning Telltale

Telltale is mounted inside the occupant compartment in front of and in clear view of the driver? ( X )YES ( )NO (fail)

TPMS Low Tire Pressure Warning Telltale Location: Between the speedometer and fuel gauge

Identify Telltale Symbol Used (check box above figure).

Note any words or additional symbols used: None

Telltale is part of a reconfigurable display? ( )YES ( X )NO

TPMS Malfunction Telltale

( ) None ( X ) Dedicated stand-alone ( ) Combined with low tire pressure telltale

TPMS Dedicated Malfunction Telltale Location: Between the speedometer and fuel gauge

Telltale is mounted inside the occupant compartment in front of and in clear view of the driver? ( X )YES ( )NO (fail)

Malfunction telltale is part of a reconfigurable display? ( )YES ( X )NO

Identify Dedicated Telltale Symbol Used: ( X ) “TPMS” ( ) OTHER (fail)

Note any words or additional symbols used: None
DATA SHEET 2 (Sheet 2 of 2)
LOW TIRE PRESSURE WARNING AND MALFUNCTION TELLTALE

Check Telltale Lamp Functions:

LOW TIRE PRESSURE WARNING TELLTALE

Ignition locking system position when telltale illuminates:

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

☐ ON/RUN ☒ Between ON/RUN and START

Is the telltale yellow in color?  ( ☐ )YES ( ☒ )NO (fail)

Time telltale remains illuminated 3 seconds.

DEDICATED MALFUNCTION TELLTALE

Ignition locking system position when telltale illuminates:

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

☐ ON/RUN ☒ Between ON/RUN and START

Is the telltale yellow in color?  ( ☐ )YES ( ☒ )NO (fail)

Time telltale remains illuminated 3 seconds.

Starter Interlocks:

Does vehicle have any starter, transmission or other interlocks that affect operation of the telltale lamp check function?  ( ☐ )YES ( ☒ )NO

Low Tire Pressure Warning and Malfunction Telltales (PASS/FAIL)  __PASS__

REMARKS: None

RECORDED BY: Jack R. Stewart  DATE: January 28, 2009

APPROVED BY: Kenneth H. Yates
DATA SHEET 3 (Sheet 1 of 22)
TPMS OPERATIONAL PERFORMANCE

TEST DATE: January 28, 2009 LAB: U.S. DOT San Angelo Test Facility

VEHICLE NHTSA NUMBER: C95302

Time: Start: 11:09 am End: 12:15 pm

Ambient Temperature: Start: 16.1°C (61.0°F) End: 18.2°C (64.8°F)

Odometer Reading: Start: 270 km (168 mi)

Fuel Level: Start: Full

Weather Conditions: Clear

Time vehicle remained with engine off and tires shielded from direct sunlight (1 hour minimum): overnight minutes

PRE-TEST TIRE INFLATION PRESSURES AND TIRE/SURFACE TEMPERATURES:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test cold measurements after ambient soak: Inflation Pressure</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>18.2°C (64.8°F)</td>
<td>18.3°C (64.9°F)</td>
<td>18.4°C (65.1°F)</td>
<td>18.2°C (64.8°F)</td>
</tr>
</tbody>
</table>
### VEHICLE WEIGHT:

**Vehicle Ratings from Certification Label:**

- **GVWR:** 1,594 kg (3,512 lbs)
- **GAWR (front):** 872 kg (1,921 lbs)
- **GAWR (rear):** 735 kg (1,619 lbs)

**Vehicle Capacity Weight:**
- Vehicle Capacity Weight: 385 kg (850 lbs)

### Measured Unloaded Vehicle Weight:

<table>
<thead>
<tr>
<th></th>
<th>LF</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>354 kg (780 lbs)</td>
<td>211 kg (466 lbs)</td>
</tr>
<tr>
<td></td>
<td>347 kg (765 lbs)</td>
<td>213 kg (469 lbs)</td>
</tr>
<tr>
<td></td>
<td>701 kg (1,545 lbs)</td>
<td>424 kg (935 lbs)</td>
</tr>
</tbody>
</table>

Total Vehicle: 1,125 kg (2,480 lbs)

### Measured Test Weight:

**LLVW (+50, -0 kg)**

<table>
<thead>
<tr>
<th></th>
<th>LF</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>402 kg (887 lbs)</td>
<td>260 kg (574 lbs)</td>
</tr>
<tr>
<td></td>
<td>401 kg (883 lbs)</td>
<td>265 kg (585 lbs)</td>
</tr>
<tr>
<td></td>
<td>803 kg (1,770 lbs)</td>
<td>525 kg (1,159 lbs)</td>
</tr>
</tbody>
</table>

Total Vehicle: 1,328 kg (2,929 lbs) (not greater than GVWR)

Note: For scenarios A, B, C, and G, this total vehicle weight measures the vehicle loaded to Lightly Loaded Vehicle Weight (LLVW), 204 kg (449 lbs) of driver, passenger, and test equipment.
DATA SHEET 3 (Sheet 3 of 22)
TPMS OPERATIONAL PERFORMANCE

SCENARIO A – Left Front Tire Deflation at LLVW

TEST DATE: January 30, 2009  LAB: U. S. DOT San Angelo Test Facility

VEHICLE NHTSA NUMBER: C95302

Note: See Data Sheet 3 (Sheet 2 of 22) for Test Weight.

TIRE INFLATION PRESSURES AND TIRE/SURFACE TEMPERATURES
BEFORE CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After loading vehicle to lightly loaded vehicle weight, positioning vehicle at selected test start point, and vehicle cool down period:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>12.3°C (54.1°F)</td>
<td>Vehicle cool down period:</td>
<td>overnight</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Inflation Pressure</th>
<th>Tire Sidewall Temp</th>
<th>San Angelo Test Facility Shop Floor Temp</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>220.0 kPa (31.9 psi)</td>
<td>10.2°C (50.4°F)</td>
<td>9.6°C (49.3°F)</td>
</tr>
<tr>
<td></td>
<td>220.1 kPa (31.9 psi)</td>
<td>10.6°C (51.1°F)</td>
<td>9.0°C (48.2°F)</td>
</tr>
<tr>
<td></td>
<td>220.0 kPa (31.9 psi)</td>
<td>10.0°C (50.0°F)</td>
<td>9.0°C (48.2°F)</td>
</tr>
<tr>
<td></td>
<td>220.1 kPa (31.9 psi)</td>
<td>9.8°C (49.6°F)</td>
<td>8.8°C (47.8°F)</td>
</tr>
</tbody>
</table>

SYSTEM CALIBRATION/LEARNING PHASE:

<table>
<thead>
<tr>
<th>Time:</th>
<th>Start:</th>
<th>17:51:51 UTC</th>
<th>End: 18:16:10 UTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip Odometer Reading:</td>
<td>Start:</td>
<td>55.2 km (34.3 mi)</td>
<td>End: 87.1 km (54.1 mi)</td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>Start:</td>
<td>12.3°C (54.1°F)</td>
<td>End: 13.5°C (56.3°F)</td>
</tr>
<tr>
<td>Roadway Temperature:</td>
<td>Start:</td>
<td>20.8°C (69.4°F)</td>
<td>End: 21.2°C (70.2°F)</td>
</tr>
</tbody>
</table>

Driving in first direction:

Starting point: Goodfellow Air Force Base (GAFB) north gate  Direction: see chart, page 59

10:11 minutes (stopwatch time)  15.8 km (9.8 mi) distance

Driving in opposite direction:

Starting point: US 87 crossover overpass  Direction: see chart, page 59

10:25 minutes (stopwatch time)  16.1 km (10.0 mi) distance

Max speed: 98.2 km/h (61.0 mph)

Total Driving Time: 20:37 minutes (VBox time)
TPMS OPERATIONAL PERFORMANCE
SCENARIO A – Left Front Tire Deflation at LLVW

TIRE INFLATION PRESSURES AND TEMPERATURES AFTER CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation Pressure</td>
<td>245.4 kPa (35.6 psi)</td>
<td>241.6 kPa (35.0 psi)</td>
<td>243.7 kPa (35.3 psi)</td>
<td>245.5 kPa (35.6 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>26.2°C (79.2°F)</td>
<td>21.2°C (70.2°F)</td>
<td>21.6°C (70.9°F)</td>
<td>24.2°C (75.6°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>7.8°C (46.0°F)</td>
<td>7.8°C (46.0°F)</td>
<td>9.8°C (49.6°F)</td>
<td>8.2°C (46.8°F)</td>
</tr>
</tbody>
</table>

SYSTEM DETECTION PHASE:

LOCATION AND PRESSURE(S) OF DEFLATED TIRE(S):

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Location of Tire(s) Deflated:</td>
<td>( X )LF (   )LR (   )RR (   )RF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation Pressure</td>
<td>158.0 kPa (22.9 psi)</td>
<td>0 kPa</td>
<td>0 kPa</td>
<td>0 kPa</td>
</tr>
</tbody>
</table>

TELLTALE ILLUMINATION:

Driving in first direction:

Starting point: San Angelo Test Facility shop

Distance to Illumination: 0.3 km (0.2 mi) distance
Time to Illumination: 1:14 minutes (stopwatch)
Max speed: 27.4 km/h (17.0 mph)

TELLTALE ILLUMINATES WITHIN 20 MINUTES: ( X )YES (   )NO (fail)

After 5 minutes with the ignition locking system in the “Off” or “Lock” position, does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES (   )NO (fail)

Deactivate the ignition locking system and then re-start the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES (   )NO (fail)
**TPMS OPERATIONAL PERFORMANCE**

**SCENARIO A – Left Front Tire Deflation at LLVW**

**TIRE INFLATION PRESSURES AND TEMPERATURES AFTER TELLTALE ILLUMINATION:**

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After vehicle cool down period:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>16.0°C (60.8°F)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle cool down period:</td>
<td>61 minutes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation Pressure</td>
<td>149.1 kPa (21.6 psi)</td>
<td>227.1 kPa (32.9 psi)</td>
<td>226.9 kPa (32.9 psi)</td>
<td>228.9 kPa (33.2 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>14.0°C (57.2°F)</td>
<td>14.4°C (57.9°F)</td>
<td>14.2°C (57.6°F)</td>
<td>13.2°C (55.8°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>10.8°C (51.4°F)</td>
<td>11.2°C (52.2°F)</td>
<td>10.8°C (51.4°F)</td>
<td>10.2°C (50.4°F)</td>
</tr>
</tbody>
</table>

After the cool down period of a minimum of one hour, restart the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? **( X )YES ( )NO (fail)**

**TELLTALE EXTINGUISHMENT:**

**RE-ADJUSTED TIRE INFLATION PRESSURES:**

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After illumination verification:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Re-adjusted Inflation Pressure:</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.1 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
</tr>
</tbody>
</table>

Is it necessary to drive the vehicle to extinguish the telltale? **( X )YES ( )NO**

Starting point: San Angelo Test Facility shop

1:17 seconds (stopwatch time – non-cumulative) 0.2 km (0.1 mi) distance

**TPMS Performance Test Results (PASS/FAIL)**

PASS

Left front tire was deflated at LLVW.

**REMARKS:** None

**RECORDED BY:** Jack R. Stewart **DATE:** January 30, 2009

**APPROVED BY:** Kenneth H. Yates
DATA SHEET 3 (Sheet 6 of 22)  
TPMS OPERATIONAL PERFORMANCE  
SSCENARIO B – Left Front and Left Rear Tire Deflation at LLVW

TEST DATE: February 2, 2009   LAB: U.S. DOT San Angelo Test Facility

VEHICLE NHTSA NUMBER: C95302

Note: See Data Sheet 3 (Sheet 2 of 22) for Test Weight.

TIRE INFLATION PressURES AND TIRE/SURFACE TEMPERATURES
BEFORE CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After loading vehicle to lightly loaded vehicle weight, positioning vehicle at selected test start point, and vehicle cool down period:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature: 6.5°C (43.7°F)</td>
<td>Vehicle cool down period: overnight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation Pressure</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>7.4°C (45.3°F)</td>
<td>7.4°C (45.3°F)</td>
<td>6.8°C (44.2°F)</td>
<td>7.0°C (44.6°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>9.6°C (49.3°F)</td>
<td>9.6°C (49.3°F)</td>
<td>8.8°C (47.8°F)</td>
<td>9.2°C (48.6°F)</td>
</tr>
</tbody>
</table>

SYSTEM CALIBRATION/LEARNING PHASE:

Time: Start: 16:43:38 UTC   End: 17:08:50 UTC
Trip Odometer Reading: Start: 89.8 km (55.8 mi)   End: 121.8 km (75.7 mi)
Ambient Temperature: Start: 6.6°C (43.9°F)   End: 9.9°C (49.8°F)
Roadway Temperature: Start: 11.0°C (51.8°F)   End: 17.0°C (62.6°F)

Driving in first direction:
Starting point: GAFB north gate   Direction: see chart, page 60
10:12 minutes (stopwatch time) 15.8 km (9.8 mi) distance

Driving in opposite direction:
Starting point: US 87 crossover overpass   Direction: see chart, page 60
10:31 minutes (stopwatch time) 16.1 km (10.0 mi) distance

Max speed: 99.5 km/h (61.8 mph)
Total Driving Time: 20:43 minutes (VBox time)
### TIRE INFLATION PRESSURES AND TEMPERATURES AFTER CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Inflation Pressure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediately, after vehicle is stopped, engine off:</td>
<td>244.4 kPa (35.4 psi)</td>
<td>240.0 kPa (34.8 psi)</td>
<td>242.5 kPa (35.2 psi)</td>
<td>244.6 kPa (35.5 psi)</td>
</tr>
<tr>
<td></td>
<td><strong>Tire Sidewall Temp</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>23.0°C (73.4°F)</td>
<td>18.6°C (65.5°F)</td>
<td>19.6°C (67.3°F)</td>
<td>23.2°C (73.8°F)</td>
</tr>
<tr>
<td></td>
<td><strong>San Angelo Test Facility Shop Floor Temp</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.4°C (50.7°F)</td>
<td>10.6°C (51.1°F)</td>
<td>10.4°C (50.7°F)</td>
<td>10.6°C (51.1°F)</td>
</tr>
</tbody>
</table>

### SYSTEM DETECTION PHASE:

### LOCATION AND PRESSURE(S) OF DEFLATED TIRE(S):

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Location of Tire(s) Deflated:</td>
<td>( X )LF ( X )LR ( )RR ( )RF</td>
<td>158.0 kPa (22.9 psi)</td>
<td>158.0 kPa (22.9 psi)</td>
<td></td>
</tr>
<tr>
<td><strong>Inflation Pressure</strong></td>
<td>158.0 kPa (22.9 psi)</td>
<td>158.0 kPa (22.9 psi)</td>
<td>0 kPa (0.0 psi)</td>
<td>0 kPa (0.0 psi)</td>
</tr>
</tbody>
</table>

### TELTALTE ILLUMINATION:

**Driving in first direction:**

- **Starting point:** San Angelo Test Facility shop
- **Distance to Illumination:** 0.5 km (0.3 mi) distance
- **Time to Illumination:** 1:41 minutes (stopwatch)
- **Max speed:** 25.5 km/h (15.8 mph)

**TELTALTE ILLUMINATES WITHIN 20 MINUTES:** ( X )YES ( )NO (fail)

After 5 minutes with the ignition locking system in the “Off” or “Lock” position, does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)

Deactivate the ignition locking system and then re-start the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)
## TPMS OPERATIONAL PERFORMANCE

### SSCENARIO B – Left Front and Left Rear Tire Deflation at LLVW

**TIRE INFLATION PRESSURES AND TEMPERATURES AFTER TELTTEALE ILLUMINATION:**

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>After vehicle cool down period:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>11.0°C (51.8°F)</td>
<td>Vehicle cool down period:</td>
<td>76 minutes</td>
<td></td>
</tr>
<tr>
<td>Inflation Pressure</td>
<td>149.8 kPa (21.7 psi)</td>
<td>151.6 kPa (22.0 psi)</td>
<td>228.8 kPa (33.2 psi)</td>
<td>229.5 kPa (33.3 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>13.6°C (56.5°F)</td>
<td>13.2°C (55.8°F)</td>
<td>13.2°C (55.8°F)</td>
<td>12.8°C (55.0°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>12.6°C (54.7°F)</td>
<td>12.8°C (55.0°F)</td>
<td>12.6°C (54.7°F)</td>
<td>12.6°C (54.7°F)</td>
</tr>
</tbody>
</table>

After the cool down period of a minimum of one hour, restart the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position?  ( X )YES (   )NO (fail)

### TELLTALE EXTINGUISHMENT:

**RE-ADJUSTED TIRE INFLATION PRESSURES:**

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>After illumination verification:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Re-adjusted Inflation Pressure:</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.1 kPa (31.9 psi)</td>
</tr>
</tbody>
</table>

Is it necessary to drive the vehicle to extinguish the telltale?  ( X )YES (   )NO

Starting point:  San Angelo Test Facility shop

1:23 seconds (stopwatch time – non-cumulative)  0.2 km (0.1 mi) distance

**TPMS Performance Test Results (PASS/FAIL)**

PASS

Left front and left rear tires were deflated at LLVW.

**REMARKS:** None

**RECORDED BY:** Jack R. Stewart  **DATE:** February 2, 2009

**APPROVED BY:** Kenneth H. Yates
DATA SHEET 3 (Sheet 9 of 22)
TPMS OPERATIONAL PERFORMANCE
SCENARIO C – Left Front, Left Rear, Right Rear, Right Front Tire Deflation at LLVW

TEST DATE: __February 3, 2009___   LAB:  U.S. DOT San Angelo Test Facility

VEHICLE NHTSA NUMBER:  _C95302_

Note: See Data Sheet 3 (Sheet 2 of 22) for Test Weight.

TIRE INFLATION PRESSURES AND TIRE/SURFACE TEMPERATURES
BEFORE CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inflation Pressure</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
</tr>
<tr>
<td></td>
<td>Tire Sidewall Temp</td>
<td>7.4°C (45.3°F)</td>
<td>6.6°C (43.9°F)</td>
<td>7.2°C (45.0°F)</td>
</tr>
<tr>
<td></td>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>9.2°C (48.6°F)</td>
<td>8.8°C (47.8°F)</td>
<td>9.4°C (48.9°F)</td>
</tr>
</tbody>
</table>

SYSTEM CALIBRATION/LEARNING PHASE:


Trip Odometer Reading:  Start: 124.6 km (77.4 mi)  End: 156.4 km (97.2 mi)

Ambient Temperature:  Start: 5.1°C (41.2°F)  End: 6.5°C (43.7°F)

Roadway Temperature:  Start: 2.6°C (36.7°F)  End: 6.6°C (43.9°F)

Driving in first direction:

Starting point:  GAFB north gate  Direction:  see chart, page 61

10:15 minutes (stopwatch time)  15.8 km (9.8 mi) distance

Driving in opposite direction:

Starting point:  US 87 crossover overpass  Direction:  see chart, page 61

10:34 minutes (stopwatch time)  16.1 km (10.0 mi) distance

Max speed:  97.9 km/h (60.8 mph)

Total Driving Time:  20:50 minutes (VBox time)
DATA SHEET 3 (Sheet 10 of 22)
TPMS OPERATIONAL PERFORMANCE

SCENARIO C – Left Front, Left Rear, Right Rear, Right Front Tire Deflation at LLVW

TIRE INFLATION PRESSURES AND TEMPERATURES AFTER CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediately, after vehicle is stopped, engine off: Inflation Pressure</td>
<td>241.7 kPa (35.1 psi)</td>
<td>237.6 kPa (34.5 psi)</td>
<td>239.2 kPa (34.7 psi)</td>
<td>241.1 kPa (35.0 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>21.6°C (70.9°F)</td>
<td>17.0°C (62.6°F)</td>
<td>17.0°C (62.6°F)</td>
<td>21.0°C (69.8°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>10.8°C (51.4°F)</td>
<td>10.6°C (51.1°F)</td>
<td>10.8°C (51.4°F)</td>
<td>10.8°C (51.4°F)</td>
</tr>
</tbody>
</table>

SYSTEM DETECTION PHASE:

LOCATION AND PRESSURE(S) OF DEFLATED TIRE(S):

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Location of Tire(s) Deflated: Inflation Pressure</td>
<td>158.0 kPa (22.9 psi)</td>
<td>158.1 kPa (22.9 psi)</td>
<td>158.0 kPa (22.9 psi)</td>
<td>158.1 kPa (22.9 psi)</td>
</tr>
</tbody>
</table>

TELLTALE ILLUMINATION:

Driving in first direction:

Starting point: San Angelo Test Facility shop

Distance to Illumination: 0.2 km (0.1 mi) distance
Time to Illumination: 0:58 minutes (stopwatch)
Max speed: 24.0 km/h (14.9 mph)

TELLTALE ILLUMINATES WITHIN 20 MINUTES: ( X )YES ( )NO (fail)

After 5 minutes with the ignition locking system in the “Off” or “Lock” position, does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)

Deactivate the ignition locking system and then re-start the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)
### DATA SHEET 3 (Sheet 11 of 22)
### TPMS OPERATIONAL PERFORMANCE

**SCENARIO C – Left Front, Left Rear, Right Rear, Right Front Tire Deflation at LLVW**

**TPMS OPERATIONAL PERFORMANCE**

**TIRE INFLATION PRESSURES AND TEMPERATURES AFTER TELLTALLE ILLUMINATION:**

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After vehicle cool down period:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>11.6°C (52.9°F)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle cool down period:</td>
<td>64 minutes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation Pressure</td>
<td>150.5 kPa (21.8 psi)</td>
<td>151.9 kPa (22.0 psi)</td>
<td>151.4 kPa (22.0 psi)</td>
<td>151.5 kPa (22.0 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>11.8°C (53.2°F)</td>
<td>11.4°C (52.5°F)</td>
<td>11.2°C (52.2°F)</td>
<td>11.4°C (52.5°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>10.8°C (51.4°F)</td>
<td>11.2°C (52.2°F)</td>
<td>10.8°C (51.4°F)</td>
<td>10.6°C (51.1°F)</td>
</tr>
</tbody>
</table>

After the cool down period of a minimum of one hour, restart the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? (X) YES ( ) NO (fail)

### TELLTALLE EXTINGUISHMENT:

**RE-ADJUSTED TIRE INFLATION PRESSURES:**

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After illumination verification:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Re-adjusted Inflation Pressure:</td>
<td>220.1 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.1 kPa (31.9 psi)</td>
</tr>
</tbody>
</table>

Is it necessary to drive the vehicle to extinguish the telltale? (X) YES ( ) NO

Starting point: San Angelo Test Facility shop

1:37 minutes (stopwatch time – non-cumulative) 0.3 km (0.2 mi) distance

### TEST RESULTS

**TPMS Performance Test Results (PASS/FAIL) PASS**

Left front, left rear, right rear, and right front tires were deflated at LLVW.

**REMARKS:** None

**RECORDED BY:** Jack R. Stewart **DATE:** February 3, 2009

**APPROVED BY:** Kenneth H. Yates
DATA SHEET 3 (Sheet 12 of 22)
TPMS OPERATIONAL PERFORMANCE

TEST DATE: ___February 4, 2009___  LAB: ___U.S. DOT San Angelo Test Facility___

VEHICLE NHTSA NUMBER: ___C95302___

Time: Start: 1:40 pm  End: 2:40 pm

Ambient Temperature: Start: 20.1°C (68.2°F)  End: 22.2°C (72.0°F)

Odometer Reading: Start: 428 km (266 mi)

Fuel Level: Start: Full

Weather Conditions: Clear, light winds

Time vehicle remained with engine off and tires shielded from direct sunlight: (1 hour minimum): overnight

PRE-TEST TIRE INFLATION PRESSURES AND TIRE/SURFACE TEMPERATURES:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test cold measurements after ambient soak: Inflation Pressure</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>20.8°C (69.4°F)</td>
<td>21.2°C (70.2°F)</td>
<td>21.0°C (69.8°F)</td>
<td>20.6°C (69.1°F)</td>
</tr>
</tbody>
</table>
### VEHICLE WEIGHT:

**Vehicle Ratings from Certification Label:**

- **GVWR:** 1,594 kg (3,512 lbs)
- **GAWR (front):** 872 kg (1,921 lbs)
- **GAWR (rear):** 735 kg (1,619 lbs)

**Vehicle Capacity Weight:**

Vehicle Capacity Weight 385 kg (850 lbs)

### Measured Unloaded Vehicle Weight:

<table>
<thead>
<tr>
<th></th>
<th>LF</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>354 kg (781 lbs)</td>
<td>212 kg (467 lbs)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>RF</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>347 kg (765 lbs)</td>
<td>213 kg (470 lbs)</td>
</tr>
</tbody>
</table>

**Front Axle** 701 kg (1,546 lbs)

**Rear Axle** 425 kg (937 lbs)

Total Vehicle 1,126 kg (2,483 lbs)

### Measured Test Weight:

- **( ) LLVW (+50, -0 kg)**
- **( X ) UVW + VCW**
- **( ) GVWR (+0, -50 kg)**

<table>
<thead>
<tr>
<th></th>
<th>LF</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>414 kg (913 lbs)</td>
<td>342 kg (754 lbs)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>RF</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>409 kg (902 lbs)</td>
<td>347 kg (764 lbs)</td>
</tr>
</tbody>
</table>

**Front Axle** 823 kg (1,815 lbs) (≤ GAWR)

**Rear Axle** 689 kg (1,518 lbs) (≤ GAWR)

Total Vehicle 1,512 kg (3,333 lbs) (not greater than GVWR)

**Note:** For scenarios D, E, and F, this Total Vehicle Weight measures the vehicle loaded to Unloaded Vehicle Weight (UVW) and Vehicle Capacity Weight (VCW), 385 kg (850 lbs) of driver, passenger, test equipment, and ballast.
DATA SHEET 3 (Sheet 14 of 22)
TPMS OPERATIONAL PERFORMANCE
SCENARIO D – Right Rear Tire Deflation at UVW + VCW

TEST DATE: February 5, 2009 LAB: U.S. DOT San Angelo Test Facility

VEHICLE NHTSA NUMBER: C95302

Note: See Data Sheet 3 (Sheet 13 of 22) for Test Weight.

TIRE INFLATION PRESSURES AND TIRE/SURFACE TEMPERATURES
BEFORE CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After loading vehicle to UVW + VCW, positioning vehicle at selected test start point, and vehicle cool down period:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>11.1°C (52.0°F)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inflation Pressure</th>
<th>220.0 kPa (31.9 psi)</th>
<th>220.0 kPa (31.9 psi)</th>
<th>220.0 kPa (31.9 psi)</th>
<th>220.0 kPa (31.9 psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire Sidewall Temp</td>
<td>12.0°C (53.6°F)</td>
<td>12.2°C (54.0°F)</td>
<td>12.2°C (54.0°F)</td>
<td>12.4°C (54.3°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>12.8°C (55.0°F)</td>
<td>12.8°C (55.0°F)</td>
<td>12.8°C (55.0°F)</td>
<td>12.8°C (55.0°F)</td>
</tr>
</tbody>
</table>

SYSTEM CALIBRATION/LEARNING PHASE:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip Odometer Reading:</td>
<td>Start: 163.2 km (101.4 mi)</td>
<td>End: 195.1 km (121.2 mi)</td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>Start: 11.1°C (52.0°F)</td>
<td>End: 12.3°C (54.1°F)</td>
</tr>
<tr>
<td>Roadway Temperature:</td>
<td>Start: 6.2°C (43.2°F)</td>
<td>End: 9.0°C (48.2°F)</td>
</tr>
</tbody>
</table>

Driving in first direction:

Starting point: GAFB north gate Direction: see chart, page 62
10:10 minutes (stopwatch time) 15.8 km (9.8 mi) distance

Driving in opposite direction:

Starting point: US 87 crossover overpass Direction: see chart, page 62
10:19 minutes (stopwatch time) 16.1 km (10.0 mi) distance

Max speed: 99.9 km/h (62.1 mph)
Total Driving Time: 20:29 minutes (VBox time)
SCENARIO D – Right Rear Tire Deflation at UVW + VCW

TIRE INFLATION PRESSURES AND TEMPERATURES AFTER CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inflation Pressure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediately, after vehicle is stopped, engine off:</td>
<td>239.5 kPa (34.7 psi)</td>
<td>238.3 kPa (34.6 psi)</td>
<td>238.6 kPa (34.6 psi)</td>
<td>239.5 kPa (34.7 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>22.8°C (73.0°F)</td>
<td>19.4°C (66.9°F)</td>
<td>21.8°C (71.2°F)</td>
<td>23.6°C (74.5°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>11.6°C (52.9°F)</td>
<td>11.6°C (52.9°F)</td>
<td>11.8°C (53.2°F)</td>
<td>11.8°C (53.2°F)</td>
</tr>
</tbody>
</table>

SYSTEM DETECTION PHASE:

LOCATION AND PRESSURE(S) OF DEFLATED TIRE(S):

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>RR Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Location of Tire(s) Deflated:</td>
<td>158.0 kPa (22.9 psi)</td>
</tr>
<tr>
<td>Inflation Pressure</td>
<td></td>
</tr>
</tbody>
</table>

TELLTALE ILLUMINATION:

Driving in first direction:

Starting point: San Angelo Test Facility shop

1:50 minutes (stopwatch time – non-cumulative) 0.3 km (0.2 mi) distance

Max speed: 34.6 km/h (21.5 mph)

TELLTALE ILLUMINATES WITHIN 20 MINUTES: ( X )YES ( )NO (fail)

After 5 minutes with the ignition locking system in the “Off” or “Lock” position, does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)

Deactivate the ignition locking system and then re-start the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)
TPMS OPERATIONAL PERFORMANCE
SCENARIO D – Right Rear Tire Deflation at UVW + VCW

TIRE INFLATION PRESSURES AND TEMPERATURES AFTER TELTTALE ILLUMINATION:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After vehicle cool down period:</td>
<td>226.0 kPa (32.8 psi)</td>
<td>225.0 kPa (32.6 psi)</td>
<td>148.7 kPa (21.6 psi)</td>
<td>226.9 kPa (32.9 psi)</td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>14.8°C (58.6°F)</td>
<td>14.6°C (58.3°F)</td>
<td>14.8°C (58.6°F)</td>
<td>14.8°C (58.6°F)</td>
</tr>
<tr>
<td>Tire Sidewall Temp:</td>
<td>13.6°C (56.5°F)</td>
<td>13.8°C (56.8°F)</td>
<td>13.8°C (56.8°F)</td>
<td>13.6°C (56.5°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp:</td>
<td>13.6°C (56.5°F)</td>
<td>13.8°C (56.8°F)</td>
<td>13.8°C (56.8°F)</td>
<td>13.6°C (56.5°F)</td>
</tr>
</tbody>
</table>

After the cool down period of a minimum of one hour, restart the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position?  ( X )YES     (   )NO (fail)

TELLTALE EXTINGUISHMENT:
RE-ADJUSTED TIRE INFLATION PRESSURES:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After illumination verification:</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
</tr>
</tbody>
</table>

Is it necessary to drive the vehicle to extinguish the telltale?  ( X )YES     (   )NO

Starting point: San Angelo Test Facility shop

1:25 minutes (stopwatch time – non-cumulative) 0.3 km (0.2 mi) distance

TPMS Performance Test Results (PASS/FAIL)  PASS
Right rear tire was deflated at UVW + VCW.

REMARKS: None

RECORDED BY: Jack R. Stewart DATE: February 5, 2009
APPROVED BY: Kenneth H. Yates
DATA SHEET 3 (Sheet 17 of 22)
TPMS OPERATIONAL PERFORMANCE

SCENARIO E – Left Front, Right Front Tire Deflation at UVW + VCW

TEST DATE:  February 11, 2009    LAB:  U.S. DOT San Angelo Test Facility

VEHICLE NHTSA NUMBER:  C95302

Note:  See Data Sheet 3 (Sheet 13 of 22) for Test Weight.

TIRE INFLATION PRESSURES AND TIRE/SURFACE TEMPERATURES
BEFORE CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation Pressure</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>12.2°C (54.0°F)</td>
<td>11.6°C (52.9°F)</td>
<td>11.8°C (53.2°F)</td>
<td>11.6°C (52.9°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>13.6°C (56.5°F)</td>
<td>13.4°C (56.1°F)</td>
<td>12.8°C (55.0°F)</td>
<td>13.2°C (55.8°F)</td>
</tr>
</tbody>
</table>

SYSTEM CALIBRATION/LEARNING PHASE:

Time:  Start:  14:41:16 UTC    End:  15:06:15 UTC
Trip Odometer Reading:  Start: 201.2 km (125.0 mi)    End: 233.0 km (144.8 mi)
Ambient Temperature:  Start: 10.4°C (50.7°F)    End: 11.2°C (52.2°F)
Roadway Temperature:  Start: 8.5°C (47.3°F)    End: 11.6°C (52.9°F)

Driving in first direction:

Starting point:  GAFB north gate    Direction:  see chart, page 63
10:00 minutes (stopwatch time)  15.8 km (9.8 mi) distance

Driving in opposite direction:

Starting point:  US 87 crossover overpass    Direction:  see chart, page 63
10:37 minutes (stopwatch time)  16.1 km (10.0 mi) distance

Max speed:  99.0 km/h (61.5 mph)
Total Driving Time:  20:37 minutes (VBox time)
DATA SHEET 3 (Sheet 18 of 22)
TPMS OPERATIONAL PERFORMANCE
SCENARIO E – Left Front, Right Front Tire Deflation at UVW + VCW

TIRE INFLATION PRESSURES AND TEMPERATURES AFTER CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>239.8 kPa (34.8 psi)</td>
<td>238.5 kPa (34.6 psi)</td>
<td>240.2 kPa (34.8 psi)</td>
<td>240.1 kPa (34.8 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>23.6°C (74.5°F)</td>
<td>21.2°C (70.2°F)</td>
<td>20.2°C (68.4°F)</td>
<td>22.8°C (73.0°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>13.6°C (56.5°F)</td>
<td>13.6°C (56.5°F)</td>
<td>13.4°C (56.1°F)</td>
<td>13.6°C (56.5°F)</td>
</tr>
</tbody>
</table>

SYSTEM DETECTION PHASE:

LOCATION AND PRESSURE(S) OF DEFLATED TIRE(S):

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Location of Tire(s) Deflated:</td>
<td>158.0 kPa (22.9 psi)</td>
<td>0 kPa</td>
<td>0 kPa</td>
<td>158.0 kPa (22.9 psi)</td>
</tr>
<tr>
<td></td>
<td>158.0 kPa (22.9 psi)</td>
<td>158.0 kPa (22.9 psi)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TELLTALE ILLUMINATION:

Driving in first direction:

- Starting point: San Angelo Test Facility shop
- 1:39 minutes (stopwatch time – non-cumulative) 0.3 km (0.2 mi) distance
- Max speed: 24.8 km/h (15.4 mph)

TELLTALE ILLUMINATES WITHIN 20 MINUTES: ( X )YES ( )NO (fail)

After 5 minutes with the ignition locking system in the “Off” or “Lock” position, does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)

Deactivate the ignition locking system and then re-start the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)
DATA SHEET 3 (Sheet 19 of 22)
TPMS OPERATIONAL PERFORMANCE
SCENARIO E – Left Front, Right Front Tire Deflation at UVW + VCW

TIARE INFLATION PRESSURES AND TEMPERATURES AFTER TELLTALE ILLUMINATION:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient Temperature:</td>
<td>13.1°C (55.6°F)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vehicle cool down period: 62 minutes

<table>
<thead>
<tr>
<th></th>
<th>Inflation Pressure</th>
<th>Tire Sidewall Temp</th>
<th>San Angelo Test Facility Shop Floor Temp</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>149.9 kPa (21.7 psi)</td>
<td>14.2°C (57.6°F)</td>
<td>13.8°C (56.8°F)</td>
</tr>
<tr>
<td></td>
<td>224.3 kPa (32.5 psi)</td>
<td>14.4°C (57.9°F)</td>
<td>14.4°C (57.9°F)</td>
</tr>
<tr>
<td></td>
<td>223.6 kPa (32.4 psi)</td>
<td>14.2°C (57.6°F)</td>
<td>14.0°C (57.2°F)</td>
</tr>
<tr>
<td></td>
<td>150.2 kPa (21.8 psi)</td>
<td>13.8°C (56.8°F)</td>
<td>13.8°C (56.8°F)</td>
</tr>
</tbody>
</table>

After the cool down period of a minimum of one hour, restart the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? (X) YES ( ) NO (fail)

TELLTALE EXTINGUISHMENT:

RE-ADJUSTED TIRE INFLATION PRESSURES:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re-adjusted Inflation Pressure:</td>
<td>220.1 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.1 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
</tr>
</tbody>
</table>

Is it necessary to drive the vehicle to extinguish the telltale? (X) YES ( ) NO

Starting point: San Angelo Test Facility shop

1:26 minutes (stopwatch time – non-cumulative) 0.3 km (0.2 mi) distance

TPMS Performance Test Results (PASS/FAIL)

PASS

Left front and right front tires were deflated at UVW + VCW.

REMARKS: None

RECORDED BY: Jack R. Stewart DATE: February 11, 2009
APPROVED BY: Kenneth H. Yates
DATA SHEET 3 (Sheet 20 of 22)  
TPMS OPERATIONAL PERFORMANCE  
SCENARIO F – Left Rear, Right Rear, and Right Front  
Tire Deflation at UVW +VCW

TEST DATE: February 11, 2009   LAB: U.S. DOT San Angelo Test Facility

VEHICLE NHTSA NUMBER: C95302

Note: See Data Sheet 3 (Sheet 13 of 22) for Test Weight.

TIRE INFLATION PRESSURES AND TIRE/SURFACE TEMPERATURES BEFORE CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After loading vehicle to UVW + VCW, positioning vehicle at selected test start point, and vehicle cool down period:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature: 15.6°C (60.1°F)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp: 15.4°C (59.7°F)</td>
<td>15.8°C (60.4°F)</td>
<td>15.2°C (59.4°F)</td>
<td>15.6°C (60.1°F)</td>
<td></td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp: 14.6°C (58.3°F)</td>
<td>14.8°C (58.6°F)</td>
<td>14.6°C (58.3°F)</td>
<td>14.4°C (57.9°F)</td>
<td></td>
</tr>
</tbody>
</table>

SYSTEM CALIBRATION/LEARNING PHASE:

Time: Start: 18:02:14 UTC   End: 18:27:16 UTC

Trip Odometer Reading: Start: 236.1 km (146.7 mi)   End: 268.0 km (166.5 mi)

Ambient Temperature: Start: 15.6°C (60.1°F)   End: 16.2°C (61.2°F)

Roadway Temperature: Start: 24.8°C (76.6°F)   End: 25.8°C (78.4°F)

Driving in first direction:
Starting point: GAFB north gate   Direction: see chart, page 64
10:09 minutes (stopwatch time) 15.8 km (9.8 mi) distance

Driving in opposite direction:
Starting point: US 87 crossover overpass   Direction: see chart, page 64
10:31 minutes (stopwatch time) 16.1 km (10.0 mi) distance

Max speed: 99.6 km/h (61.9 mph)

Total Driving Time: 20:41 minutes (VBox time)
DATA SHEET 3 (Sheet 21 of 22)
TPMS OPERATIONAL PERFORMANCE
SCENARIO F – Left Rear, Right Rear, and Right Front
Tire Deflation at UVW +VCW

TIRE INFLATION PRESSURES AND TEMPERATURES AFTER CALIBRATION PHASE:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediately, after vehicle is stopped, engine off:</td>
<td>241.6 kPa</td>
<td>242.1 kPa</td>
<td>244.7 kPa</td>
<td>242.5 kPa</td>
</tr>
<tr>
<td>Inflation Pressure</td>
<td>(35.0 psi)</td>
<td>(35.1 psi)</td>
<td>(35.5 psi)</td>
<td>(35.2 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>29.4°C</td>
<td>26.2°C</td>
<td>25.8°C</td>
<td>28.0°C</td>
</tr>
<tr>
<td></td>
<td>(84.9°F)</td>
<td>(79.2°F)</td>
<td>(78.4°F)</td>
<td>(82.4°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>13.6°C</td>
<td>14.2°C</td>
<td>14.2°C</td>
<td>14.2°C</td>
</tr>
<tr>
<td></td>
<td>(56.5°F)</td>
<td>(57.6°F)</td>
<td>(57.6°F)</td>
<td>(57.6°F)</td>
</tr>
</tbody>
</table>

SYSTEM DETECTION PHASE:

LOCATION AND PRESSURE(S) OF DEFLATED TIRE(S):

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Location of Tire(s) Deflated:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( )LF ( X )LR ( X )RR ( X )RF</td>
<td>158.0 kPa</td>
<td>158.0 kPa</td>
<td>158.0 kPa</td>
<td></td>
</tr>
<tr>
<td>Inflation Pressure</td>
<td>(22.9 psi)</td>
<td>(22.9 psi)</td>
<td>(22.9 psi)</td>
<td></td>
</tr>
</tbody>
</table>

TELLTALE ILLUMINATION:

Driving in first direction:

Starting point:  San Angelo Test Facility shop

1:02 minutes (stopwatch time – non-cumulative) 0.3 km (0.2 mi) distance

Max speed:  23.8 km/h (14.8 mph)

TELLTALE ILLUMINATES WITHIN 20 MINUTES: ( X )YES ( )NO (fail)

After 5 minutes with the ignition locking system in the “Off” or “Lock” position, does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)

Deactivate the ignition locking system and then re-start the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)
DATA SHEET 3 (Sheet 22 of 22)
TPMS OPERATIONAL PERFORMANCE
SCENARIO F – Left Rear, Right Rear, and Right Front
Tire Deflation at UVW +VCW

TPMS OPERATIONAL PERFORMANCE

TIRE INFLATION PRESSURES AND TEMPERATURES AFTER TELLTALE ILLUMINATION:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After vehicle cool down period:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>18.6°C (65.5°F)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle cool down period:</td>
<td>64 minutes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation Pressure</td>
<td>225.5 kPa (32.7 psi)</td>
<td>149.2 kPa (21.6 psi)</td>
<td>147.3 kPa (21.4 psi)</td>
<td>149.8 kPa (21.7 psi)</td>
</tr>
<tr>
<td>Tire Sidewall Temp</td>
<td>17.6°C (63.7°F)</td>
<td>18.4°C (65.1°F)</td>
<td>18.2°C (64.8°F)</td>
<td>17.8°C (64.0°F)</td>
</tr>
<tr>
<td>San Angelo Test Facility Shop Floor Temp</td>
<td>15.6°C (60.1°F)</td>
<td>16.4°C (61.5°F)</td>
<td>16.2°C (61.2°F)</td>
<td>15.6°C (60.1°F)</td>
</tr>
</tbody>
</table>

After the cool down period of a minimum of one hour, restart the vehicle engine. Does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? (X) YES ( ) NO (fail)

TELLTALE EXTINGUISHMENT:
RE-ADJUSTED TIRE INFLATION PRESSURES:

<table>
<thead>
<tr>
<th>Execution Procedure</th>
<th>LF Tire</th>
<th>LR Tire</th>
<th>RR Tire</th>
<th>RF Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>After illumination verification: Re-adjusted Inflation Pressure:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>220.0 kPa (31.9 psi)</td>
<td>220.1 kPa (31.9 psi)</td>
<td>220.1 kPa (31.9 psi)</td>
<td>220.0 kPa (31.9 psi)</td>
</tr>
</tbody>
</table>

Is it necessary to drive the vehicle to extinguish the telltale? (X) YES ( ) NO

Starting point: San Angelo Test Facility shop

1:11 minutes (stopwatch time – non-cumulative) 0.3 km (0.2 mi) distance

TPMS Performance Test Results (PASS/FAIL) PASS
Left rear, right rear, and right front tires were deflated at UVW +VCW.

REMARKS: None

RECORDED BY: Jack R. Stewart DATE: February 11, 2009
APPROVED BY: Kenneth H. Yates
Scenario G – Malfunction Detection Test at LLVW

TEST DATE: January 29, 2009 LAB: U.S. DOT San Angelo Test Facility

VEHICLE NHTSA NUMBER: C95302

Time: Start: 17:07:08 UTC End: 17:30:11 UTC
Trip Odometer Reading: Start: 2.4 km (1.5 mi) End: 32.8 km (20.4 mi)
Ambient Temperature: Start: 4.9°C (40.8°F) End: 8.5°C (47.3°F)
Roadway Temperature: Start: 12.2°C (54.0°F) End: 15.2°C (59.4°F)
Fuel Level: Start: Full

Note: See Data Sheet 3 (Sheet 2 of 22) for Test Weight.

TPMS TYPE: ( X ) Direct ( ) Indirect ( ) Other Describe: ____________________________

TPMS MALFUNCTION TELLTALE:
( X ) Dedicated stand-alone ( ) Combination low tire pressure warning/malfunction telltale

METHOD OF MALFUNCTION SIMULATION:
Describe method of malfunction simulation: Spare tire without TPMS sensor was applied to right front at LLVW.

MALFUNCTION TELLTALE ILLUMINATION (after ignition locking system is activated to “On” (“Run”) position):

Dedicated Malfunction Telltale

Driving in first direction:
Starting point: San Angelo Test Facility shop Direction: see chart, page 65
30.4 km (18.9 mi) distance

Max speed: 97.9 km/h (60.8 mph)
Total Driving Time: 18:25 minutes (VBox time)

TELLTALE ILLUMINATES WITHIN 20 MINUTES: ( X ) YES ( ) NO
DATA SHEET 4 (Sheet 2 of 2)
Scenario G – Malfunction Detection Test at LLVW

After 5 minutes with the ignition locking system in the “Off” or “Lock” position, does the telltale re-illuminate and stay illuminated when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)

Deactivate the ignition locking system and then re-start the vehicle engine. Does the telltale re-illuminate and stay illuminated for at least 60 seconds when the ignition locking system is activated to the “On” or “Run” position? ( X )YES ( )NO (fail)

Extinguishment Phase:

Restore the TPMS to normal operation. Is it necessary to drive the vehicle to extinguish the telltale? ( X )YES ( )NO

Starting point: San Angelo Test Facility shop

1:08 minutes (stopwatch time – non-cumulative) 0.2 km (0.1 mi) distance

DEDICATED MALFUNCTION TELLTALE EXTINGUISHED: ( X )YES ( )NO (FAIL)

TPMS MALFUNCTION PERFORMANCE TEST RESULTS (PASS/FAIL) PASS
Spare without TPMS sensor was applied to right front at LLVW.

REMARKS: None

RECORDED BY: Jack R. Stewart DATE: January 29, 2009
APPROVED BY: Kenneth H. Yates
The following statement, in the English language, is provided verbatim in the Owner’s Manual.

( X )YES   ( )NO

"Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label.  (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated.  Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure.  Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure.  Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle’s handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver’s responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale."
As specified, the following sections, in the English language, are required verbatim in paragraph form in the Owner’s Manual:

The following statement is required for all vehicles certified to the standard starting on September 1, 2007 and for vehicles voluntarily equipped with a compliant TPMS MIL before that time.
"Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly."

The above statement in the English language is provided verbatim in owner’s manual:
( X )YES ( )NO

For vehicles with a dedicated MIL telltale, add the following statement:
"The TPMS malfunction indicator is provided by a separate telltale, which displays the symbol "TPMS" when illuminated."

The above statement in the English language is provided verbatim in owner’s manual:
( X )YES ( )NO ( )N/A

For vehicles with a combined low tire pressure/MIL telltale, add the following statement:
"The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists."

The above statement in the English language is provided verbatim in owner’s manual:
( )YES ( )NO ( X )N/A

The following statement is required for all vehicles certified to the standard starting on September 1, 2007 and for vehicles voluntarily equipped with a compliant TPMS MIL before that time.
"When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly."

The above statement in the English language is provided verbatim in owner’s manual:
( X )YES ( )NO

DATA INDICATES COMPLIANCE: PASS/FAIL: **PASS**
DATA SHEET 5 (Sheet 3 of 3)
TPMS WRITTEN INSTRUCTIONS

Does the Owner's Manual provide an image of the Low Tire Pressure Warning Telltale symbol (and an image of the TPMS Malfunction Telltale warning ("TPMS"), if a dedicated telltale is utilized for this function)?

( X )YES ( )NO

Does the Owner's Manual include the following (allowable) information?

☑ Significance of the low tire pressure warning telltale illuminating

☑ A description of corrective action to be undertaken

☑ Whether the tire pressure monitoring system functions with the vehicle's spare tire (if provided)

☐ How to use a reset button, if one is provided

☑ The time for the TPMS telltale(s) to extinguish once the low tire pressure condition or the malfunction is corrected

REMARKS: None

RECORDED BY: Jack R. Stewart DATE: January 26, 2009
APPROVED BY: Kenneth H. Yates
## SECTION 4
### TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

<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>STOPWATCH</td>
<td>WESTCLOX QUARTZ STOPWATCH</td>
<td>NONE</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>AIR PRESSURE GAUGE</td>
<td>ASHCROFT GENERAL PURPOSE DIGITAL GAUGE</td>
<td>MODEL # D1005PS 02L 100 PSI SERIAL # 20017398-01</td>
<td>11/20/2008</td>
<td>11/20/2009</td>
</tr>
<tr>
<td>FLOOR SCALES (VEHICLE)</td>
<td>INTERCOMP SW DELUXE SCALES</td>
<td>PART # 100156 SERIAL # 27032382</td>
<td>8/5/2008</td>
<td>8/5/2009</td>
</tr>
<tr>
<td>PLATFORM SCALE (BALLAST)</td>
<td>HOWE RICHARDSON</td>
<td>MODEL # 6401 SERIAL # 0181-5509-26</td>
<td>8/5/2008</td>
<td>8/5/2009</td>
</tr>
</tbody>
</table>
SECTION 5
PHOTOGRAPHS
2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO.138

FIGURE 5.1
¾ FRONT VIEW FROM LEFT SIDE OF VEHICLE
MFD. IN JAPAN BY HONDA MOTOR CO., LTD; 10/’08
GVWR 3512LBS  GAWR F 1921LBS  R 1619LBS
GVWR 1594KG  GAWR F 872 KG  R 735 KG

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

V.I.N.: JHMGE87229S021972  TYPE: PASSENGER CAR

TK6 9 AA0 - NH642M - B - S

2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO.138

FIGURE 5.2
VEHICLE CERTIFICATION LABEL
### TIRE AND LOADING INFORMATION

<table>
<thead>
<tr>
<th>SEATING CAPACITY</th>
<th>TOTAL 5</th>
<th>FRONT 2</th>
<th>REAR 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>The combined weight of occupants and cargo should never exceed 385kg or 850lbs.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIRE</th>
<th>SIZE</th>
<th>COLD TIRE PRESSURE</th>
<th>SPARE</th>
<th>SIZE</th>
<th>COLD TIRE PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRONT</td>
<td>175/65R15</td>
<td>220KPA, 32PSI</td>
<td>REAR</td>
<td>175/65R15</td>
<td>220KPA, 32PSI</td>
</tr>
<tr>
<td>SPARE</td>
<td>T125/70D15</td>
<td>420KPA, 60PSI</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See Owner’s Manual for Additional Information.
2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO. 138

FIGURE 5.7
TIRE SHOWING DOT SERIAL NUMBER
FIGURE 5.8
TIRE SHOWING MAX LOAD RATING
AND MAX COLD INFLATION PRESSURE
PLIES: 1
TREAD: 1 POLYESTER
SIDEWALL: 1 POLYESTER + 2 STEEL
FIGURE 5.10
RIM SHOWING VALVE STEM

2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO. 138
2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO. 138

FIGURE 5.11
RIM SHOWING TPMS SENSOR
FIGURE 5.12
DISPLAY SHOWING LOW TIRE PRESSURE WARNING

2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO. 138
2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO. 138

FIGURE 5.13
DISPLAY SHOWING DEDICATED TPMS MALFUNCTION WARNING
2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO 138

FIGURE 5.14
TEST INSTRUMENTATION ON VEHICLE
2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO. 138

FIGURE 5.15
VEHICLE REAR SEAT BALLAST
FOR UVW + VCW LOAD
2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO. 138

REAR OF VEHICLE BALLAST FOR UVW + VCW LOAD

FIGURE 5.16
2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO. 138

FIGURE 5.17
VEHICLE ON WEIGHT SCALES
2009 HONDA FIT
NHTSA NO. C95302
FMVSS NO. 138

FIGURE 5.18
SPARE INSTALLED ON RIGHT FRONT
FOR MALFUNCTION DETECTION TEST
SECTION 6
TEST PLOTS
Scenario A: Left Front Tire at LLVW
Test Date: 1/30/09
Data File Time: 24:18 minutes
Cumulative Driving Time: 20:37 minutes
Start Point: GAFB North Gate

Calibration Phase:

LF Detection Phase: Telltale illumination in 1:14 minutes. Driving above 50 km/h (31 mph) was not required.
Scenario B: Left Front, Left Rear Tires at LLVW
Test Date: 2/2/09
Data File Time: 24:51 minutes
Cumulative Driving Time: 20:43 minutes
Start Point: GAFB North Gate

Calibration Phase:

LF, LR Detection Phase: Telltale illumination in 1:41 minutes. Driving above 50 km/h (31 mph) was not required.
Scenario C: Left Front, Left Rear, Right Rear, Right Front Tires at LLVW
Test Date: 2/3/09
Data File Time: 24:36 minutes
Cumulative Driving Time: 20:50 minutes
Start Point: GAFB North Gate

Calibration Phase:

2009 Honda Fit (C95302) LF, LR, RR, RF Calibration LLVW

LF, LR, RR, RF Detection Phase: Telltale illumination in 0:58 minutes. Driving above 50 km/h (31 mph) was not required.
Scenario D: Right Rear Tire at UVW + VCW
Test Date: 2/5/09
Data File Time: 25:04 minutes
Cumulative Driving Time: 20:29 minutes
Start Point: GAFB North Gate

Calibration Phase:

2009 Honda Fit (C95302) RR Calibration UVW+VCW

RR Detection Phase: Telltale illumination in 1:50 minutes. Driving above 50 km/h (31 mph) was not required.
Scenario E: Left Front, Right Front Tires at UVW + VCW
Test Date: 2/11/09
Data File Time: 24:28 minutes
Cumulative Driving Time: 20:37 minutes
Start Point: GAFB North Gate

Calibration Phase:

LF, RF Detection Phase: Telltale illumination in 1:39 minutes. Driving above 50 km/h (31 mph) was not required.
Scenario F: Left Rear, Right Rear, Right Front Tires at UVW + VCW
Test Date: 2/11/09
Data File Time: 24:18 minutes
Cumulative Driving Time: 20:41 minutes
Start Point: GAFB North Gate

Calibration Phase:

LR, RR, RF Detection Phase: Telltale illumination in 1:02 minutes. Driving above 50 km/h (31 mph) was not required.
Scenario G Malfunction Illumination: Spare Tire without TPMS Sensor Applied to Right Front at LLVW.
Test Date: 1/29/09
Data File Time: 23:04 minutes
Cumulative Driving Time: 18:25 minutes
Start Point: GAFB North Gate
SECTION 7
OWNER’S MANUAL PAGES
Tire Pressure Monitoring System (TPMS)

U.S. models only
Your vehicle is equipped with a tire pressure monitoring system (TPMS) that turns on every time you start the engine and monitors the pressure in your tires while driving.

Each tire has its own pressure sensor (not including the spare tire). If the air pressure of a tire becomes significantly low, the sensor in that tire immediately sends a signal that causes the low tire pressure indicator to come on.

⚠️ Low Tire Pressure Indicator

When the low tire pressure indicator is on, one or more of your tires is significantly underinflated. You should stop and check your tires as soon as possible, and inflate them to the proper pressure as indicated on the vehicle's tire information placard.

If you think you can safely drive a short distance to a service station, proceed slowly, and inflate the tire to the recommended pressure shown on the driver's doojamb.

If the tire is flat, or if the tire pressure is too low to continue driving, replace the tire with the compact spare tire (see page 284).

If you cannot make the low tire pressure indicator go out after inflating the tires to the specified values, have your dealer check the system as soon as possible.

Driving on a significantly underinflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Because tire pressure varies by temperature and other conditions, the low tire pressure indicator may come on unexpectedly.

CONTINUED 235
Tire Pressure Monitoring System (TPMS)

For example, if you check and fill your tires in a warm area, then drive in extremely cold weather, the tire pressure will be lower than measured and could be underinflated and cause the low tire pressure indicator to come on. Or, if you check and adjust your tire pressure in cooler conditions, and drive into extremely hot conditions, the tire may become overinflated. However, the low tire pressure indicator will not come on if the tires are overinflated.

Refer to page 273 for tire inflation guidelines.

Although your tire pressure is monitored, you must manually check the tire pressures monthly.

Each tire, including the spare, should be checked monthly when cold, and set to the recommended inflation pressure as specified on the tire information label and in the owner’s manual (see page 274).

When you restart the vehicle with the compact spare tire, the TPMS indicator may also come on and stay on after driving several miles (kilometers).

**TPMS**

Tire Pressure Monitoring System (TPMS) Indicator

This indicator comes on and stays on if there is a problem with the tire pressure monitoring system.

If this happens, the system will shut off and no longer monitor tire pressures. Have the system checked by your dealer as soon as possible.

If the low tire pressure indicator or TPMS indicator comes on, the VSA system* automatically turns on even if the VSA system is turned off by pressing the VSA OFF switch* (see page 234). If this happens, you cannot turn the VSA system off by pressing the VSA off switch again.

*: If equipped
Tire Pressure Monitoring System (TPMS)

Changing a Tire with TPMS
If you have a flat tire, the low tire pressure indicator will come on. Replace the flat tire with the compact spare tire (see page 284).

Each wheel (except the compact spare tire wheel) is equipped with a tire pressure sensor mounted inside the tire behind the valve stem. You must use TPMS specific wheels. It is recommended that you always have your tires serviced by your dealer or qualified technician.

After you replace the flat tire with the compact spare tire, the low tire pressure indicator stays on. This is normal; the system is not monitoring the spare tire pressure. Manually check the spare tire pressure to be sure it is correct. After several miles (kilometers) driving with the compact spare tire, the TPMS indicator comes on and the low tire pressure indicator goes off.

The low tire pressure indicator or the TPMS indicator will go off, after several miles (kilometers) driving, when you replace the spare tire with the specified regular tire equipped with the tire pressure monitor sensor.

Never use a puncture-repairing agent in a flat tire. If used, you will have to replace the tire pressure sensor. Have the flat tire repaired by your dealer as soon as possible.

As required by the FCC: This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Industry Canada Standard RSS-210. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference that may cause undesired operation of the device.
**Tire Labeling, Tire Pressure Monitoring System (TPMS) – Required Federal Explanation**

**Maximum Tire Pressure**
Max Press – The maximum air pressure the tire can hold.

**Maximum Tire Load**
Max Load – The maximum load the tire can carry at maximum air pressure.

**Tire Pressure Monitoring System (TPMS) – Required Federal Explanation**

*U.S. models only*
Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label.

(If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated.

Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure.

Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.
Tire Pressure Monitoring System (TPMS) – Required Federal Explanation

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is provided by a separate telltale, which displays the symbol "TPMS" when illuminated.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended.

TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly.

Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.