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NHTSA No. C95202

5. Report Date  
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</tbody>
</table>
SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF COMPLIANCE TEST

A 2009 Nissan Altima Passenger Car was subjected to Federal Motor Vehicle Safety Standard (FMVSS) No. 104 testing to determine if the vehicle was in compliance with the requirements of the standard. All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedure, TP-104-08 dated 26 June 1996 and General Testing Laboratories, Inc. (GTL) Test Procedure, TP-104-08A dated 4 April 1997.

1.1 The test vehicle was a 2009 Nissan Altima Passenger Car. Nomenclature applicable to the test vehicle are:

A. **Vehicle Identification Number**: 1N4AL21E29N438896

B. **NHTSA No.**: C95202

C. **Manufacturer**: NISSAN MOTOR CO., LTD.

D. **Manufacture Date**: 10/08

E. **Color**: White

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 104 testing on May 5, 2009.
SECTION 2

COMPLIANCE TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 GENERAL

The 2009 Nissan Altima passenger car, NHTSA No. C95202 was subjected to FMVSS No. 104 tests on May 5, 2009. The selected portions of FMVSS No. 104 tests used were as amplified in the following subparagraphs. The test vehicle was positioned in the test system with three water spray nozzles suspended in line with the center of the longitudinal axis of the windshield and horizontal left/right center of the windshield to provide an even distribution of spray to the entire windshield. The height of the nozzles was approximately 22 inches above the glazing surface.

2.1 WIPER FREQUENCY TEST

The wiper frequency test was performed with the engine operating and with a minimum of 50 cubic inches per minute of water from the spray nozzles. The wiper frequency was measured at the low and high wiper speed settings with the engine operating at idle RPM and 2,000 RPM.

2.2 WIPED AREA TEST

The test was conducted with the windshield wiper system operating at the high speed setting, engine at idle RPM and the spray nozzles spraying water at a minimum of 50 cubic inches per minute. The wiper blade wipe pattern was outlined on the glazing surface and then transferred to a windshield pattern. The wiped area was determined for areas A, B and C from the windshield pattern.

2.3 CAPABILITY TEST

The windshield glazing surface was coated with a mixture of water and fine grade test dust. Within 15 seconds following application of the water-dust mixture, the windshield wiper and washing system was activated in the high speed mode for ten complete cycles. The vehicle’s engine was operating at idle RPM. The cleared areas of the windshield were marked on the inside windshield surface. After ten complete cycles the system was deactivated and the wiped area transferred to a windshield pattern.

The glazing surface was cleaned and dried. The water dust mixture was re-applied and the test repeated.

The windshield patterns were used subsequently to determine the cleared area percentages.

2.4 SUMMARY OF RESULTS

Based on the test performed, the test vehicle’s windshield wiping and washing system appears to meet the requirements of FMVSS 104.
SECTION 3
COMPLIANCE TEST DATA

3.0 TEST RESULTS

The following data sheets document the results of testing on the 2009 Nissan Altima.
SUMMARY OF DATA
FMVSS 104, WINDSHIELD WIPING AND WASHING SYSTEMS

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN ALTIMA PASSENGER CAR
VEH. NHTSA NO: C95202; VIN: 1N4AL21E29N438896
VEH. BUILD DATE: 10/08 TEST DATE: MAY 5, 2009
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

WIPER TYPE: 2 SPEED ELECTRIC
WASHER TYPE: HIGH PRESSURE ELECTRIC

WINDSHIELD AREAS: A = 1144 in² B = 852 in² C = 302 in²

MANUFACTURER’S WINDSHIELD PATTERN USED: Yes X No

ACCESSIBILITY:
(1) Washer Control Accessible: Yes X No
(2) Wiper Control Accessible: Yes X No
(3) Washer Reservoir Filler Accessible: Yes X No

DESCRIBE UNUSUAL FEATURES OF WIPING AND WASHING SYSTEMS:

PERFORMANCE:

<table>
<thead>
<tr>
<th>TEST</th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIPER FREQUENCY</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>WIPE PRESSED AREA</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>WASHER CAPABILITY</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

RECORDED BY: G. FARRAND DATE: 05/05/09
APPROVED BY: D. MESSICK
FREQUENCY TEST DATA
FMVSS 104 – WINDSHIELD WIPER SYSTEM

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN ALTIMA PASSENGER CAR
VEH. NHTSA NO: C95202; VIN: 1N4AL21E29N438896
VEH. BUILD DATE: 10/08; TEST DATE: MAY 5, 2009
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

Water Hardness: 7.0 grains/gallon (12 max.); Date Certified: 05/09

Water Spray Flow Rate: 74 in³/min. (specified range = 50 to 100 in³/min.)

Ambient Air Temp.: 64 °F (50-100°F); Water Temp.: 64 °F (100°F max.)

Manufacturer’s Recommended Engine Idle Speed: 650 rpm

RUN 1, MAXIMUM WIPER FREQUENCY TEST:

<table>
<thead>
<tr>
<th>TIME</th>
<th>ENGINE SPEED</th>
<th>TOTAL CYCLES</th>
<th>AVG. CYCLES/MIN. (45 MINIMUM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st 3 minutes</td>
<td>675 (idle ± 50 rpm)</td>
<td>192</td>
<td>64</td>
</tr>
<tr>
<td>2nd 3 minutes</td>
<td>2000 (2000 rpm ± 50 rpm)</td>
<td>200</td>
<td>66.6</td>
</tr>
</tbody>
</table>

Frequency at least 45 cycles/minute regardless of engine speed: Yes X No __

RUN 2, LOWER WIPER FREQUENCY TEST:

<table>
<thead>
<tr>
<th>TIME</th>
<th>ENGINE SPEED</th>
<th>TOTAL CYCLES</th>
<th>AVG. CYCLES/MIN. (20 MINIMUM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st 3 minutes</td>
<td>650 (idle ± 50 rpm)</td>
<td>139</td>
<td>46.3</td>
</tr>
<tr>
<td>2nd 3 minutes</td>
<td>2000 (2000 rpm ± 50 rpm)</td>
<td>140</td>
<td>46.6</td>
</tr>
</tbody>
</table>

Highest and lower frequency differ by at least 15 cycles/minute, and lower frequency is at least 20 cycles/minute regardless of engine speed: Yes X No __

REMARKS:

RECORDED BY: G. FARRAND DATE: 05/05/09
APPROVED BY: D. MESSICK
WIPED AREA TEST DATA
FMVSS 104 – WINDSHIELD WIPER SYSTEM

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN ALTIMA PASSENGER CAR
VEH. NHTSA NO: C95202; VIN: 1N4AL21E29N438896
VEH. BUILD DATE: 10/08; TEST DATE: MAY 5, 2009
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

Air Temperature in test area = 65°F (specified range of 50 to 100°F)
Air Velocity at windshield = .2 mph (specified range of 0 to 1 mph)
Engine speed = 650 rpm (manufacturer’s recommended idle ± 50 rpm)
Temperature of water spray = 65°F (100°F maximum)
Water spray flow rate = 74 in³/min. (specified range of 50 to 100 in³/min.)
Windshield wiper frequency = 65 cycles/min. (45 cpm minimum)

TEST RESULTS:

<table>
<thead>
<tr>
<th>WINDSHIELD AREA</th>
<th>ACTUAL</th>
<th>REQUIRED</th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>94.6%</td>
<td>80%</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>96.2%</td>
<td>94%</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>100%</td>
<td>99%</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

REMARKS:

RECORDED BY: G. FARRAND
DATE: 05/05/09
APPROVED BY: D. MESSICK
CAPABILITY TEST DATA  
FMVSS 104 – WINDSHIELD WASHER SYSTEM

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN ALTIMA PASSENGER CAR
VEH. NHTSA NO: C95202; VIN: 1N4AL21E29N438896
VEH. BUILD DATE: 10/08; TEST DATE: MAY 5, 2009
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

Air Temperature in test area = 73 °F (specified range of 70 to 80°F)
Washer reservoir fluid temperature = 76 °F (specified range of 70 to 80°F)
Air Velocity at windshield = .2 mph (specified range of 0 to 1 mph)
Engine speed = 650 rpm (manufacturer’s recommended idle ± 50 rpm)
Number of windshield washer nozzles on the vehicle = 2

Windshield washer system activation coordinated with components of the wiper system:
Yes X No_

TEST RESULTS:

<table>
<thead>
<tr>
<th>WINDSHIELD AREA</th>
<th>TEST 1</th>
<th>TEST 2</th>
<th>AVG</th>
<th>REQ'D*</th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>94.5</td>
<td>93.8</td>
<td>94.15</td>
<td>75%</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>96.13</td>
<td>96.13</td>
<td>96.13</td>
<td>75%</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>75%</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

*NOTE FOR REFERENCE ONLY: SAE 942b, revised Jul72, recommends capability to clear 80% of the total wash area and 90% of the wash area included in AREA C.

REMARKS:

RECORD BY: G. FARRAND DATE: 05/05/09
APPROVED BY: D MESSICK
## SECTION 4
INSTRUMENTATION AND EQUIPMENT LIST

### TABLE 1 - INSTRUMENTATION & 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>TIMER</td>
<td>ACCU-SPLIT</td>
<td>ACT1</td>
<td>05/09</td>
<td>05/10</td>
</tr>
<tr>
<td>TEMPERATURE READOUT</td>
<td>FLUKE</td>
<td>7471026</td>
<td>10/08</td>
<td>10/09</td>
</tr>
<tr>
<td>TEMPERATURE RECORDER</td>
<td>FLUKE</td>
<td>7471026</td>
<td>10/08</td>
<td>10/09</td>
</tr>
<tr>
<td>SPRAY SYSTEM</td>
<td>GTL</td>
<td>N/A</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>ANEMOMETER</td>
<td>OMEGA</td>
<td>19353-56</td>
<td>06/08</td>
<td>06/09</td>
</tr>
<tr>
<td>CYCLE COUNTER</td>
<td>GTL</td>
<td>GTL</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>SOFT WATER</td>
<td>N/A</td>
<td>N/A</td>
<td>05/09</td>
<td>05/10</td>
</tr>
<tr>
<td>TACHOMETER</td>
<td>MONARCH</td>
<td>ACT-3</td>
<td>05/09</td>
<td>05/10</td>
</tr>
<tr>
<td>TEST DUST</td>
<td>AC</td>
<td>GM FINE</td>
<td>CALIBRATED DUST</td>
<td>CALIBRATED BY VENDOR*</td>
</tr>
</tbody>
</table>

*AC Inspection #503, Batch #1943, Measured with particle size roller analyzer.
SECTION 5
PHOTOGRAPHS
FIGURE 5.1
LEFT SIDE VIEW OF VEHICLE
2009 NISSAN ALTIMA
NHTSA NO. C95202
FMVSS NO. 104

FIGURE 5.3
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE
MED BY NISSAN MOTOR CO., LTD.

DATE: 10/08

GVWR: 1941 KG
4279 LB

GAWR FR.: 1017 KG
2242 LB

GAWR RR.: 993 KG
2189 LB

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

1N4AL21E29N 438896
PASSENGER CAR 623
MODEL: BDBALAZ-EUA
COLOR: QX3 TRIM: K 9N00A

2009 NISSAN ALTIMA
NHTSA NO. C95202
FMVSS NO. 104

FIGURE 5.5
VEHICLE CERTIFICATION LABEL
**TIRE AND LOADING INFORMATION**

<table>
<thead>
<tr>
<th>SEATING CAPACITY</th>
<th>TOTAL</th>
<th>FRONT</th>
<th>REAR</th>
<th>SPARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOMBRE DE PLACES</td>
<td>TOTAL</td>
<td>AVANT</td>
<td>ARRIÈRE</td>
<td>DE SECOURS</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>3</td>
<td></td>
<td>T135/90R16</td>
</tr>
</tbody>
</table>

The combined weight of occupants and cargo should never exceed 408 kg or 899 lbs.

Le poids combiné d’occupants et de cargaison ne devrait jamais excéder 408 kg ou 899 lbs.

**TIRE PNEU** | **ORIGINAL SIZE** | **COLD TIRE PRESSURE**
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>P215/60R16 94T</td>
<td>220kPa, 32PSI</td>
<td></td>
</tr>
<tr>
<td>P215/60R16 94T</td>
<td>220kPa, 32PSI</td>
<td></td>
</tr>
<tr>
<td>T135/90R16</td>
<td>420kPa, 60PSI</td>
<td></td>
</tr>
</tbody>
</table>

SEE OWNER’S MANUAL FOR ADDITIONAL INFORMATION.

POUR D’AUTRES DÉTAILS, SE REPORTER AU MANUEL DU CONDUCTEUR.

FIGURE 5.6

VEHICLE TIRE INFORMATION LABEL
2009 NISSAN ALTIMA
NHTSA NO. C95202
FMVSS NO. 104

FIGURE 5.7
INSTRUMENTATION AND EQUIPMENT SET-UP
2009 NISSAN ALTIMA
NHTSA NO. C95202
FMVSS NO. 104

FIGURE 5.8
WIPE AREA TEST IN PROCESS
2009 NISSAN ALTIMA
NHTSA NO. C95202
FMVSS NO. 104

FIGURE 5.12
CAPABILITY TEST #2 PRE-COATED WINDSHIELD
2009 NISSAN ALTIMA
NHTSA NO. C95202
FMVSS NO. 104

FIGURE 5.14
CAPABILITY TEST #1 AND #2 PATTERN
SECTION 6

OWNER’S MANUAL INFORMATION
WINDSHIELD WIPER AND WASHER SWITCH

SWITCH OPERATION

The windshield wiper and washer switch operates when the ignition switch is placed in the ON position.

Push the lever down to operate the wiper at the following speed:

1. Intermittent — intermittent operation can be adjusted by turning the switch toward A (Slower) or B (Faster). Also, for vehicles equipped with speed dependent wipers, the intermittent operation speed varies in accordance with the vehicle speed. (For example, when the vehicle speed is high, the intermittent operation speed will be faster.)

2. Low — continuous low speed operation

3. High — continuous high speed operation

Push the lever up to have one sweep operation of the wiper.

Pull the lever toward you to operate the washer. The wiper will also operate several times.

WARNING

In freezing temperatures the washer solution may freeze on the windshield and obscure your vision which may lead to an accident. Warm the windshield with the defroster before you wash the windshield.

CAUTION

- Do not operate the washer continuously for more than 30 seconds.
- Do not operate the washer if the reservoir tank is empty.
- Do not fill the window washer reservoir tank with washer fluid concentrates at full strength. Some methyl alcohol based washer fluid concentrates may permanently stain the grille if spilled while filling the window washer reservoir tank.

Pre-mix washer fluid concentrates with water to the manufacturer's recommended levels before pouring the fluid into the window washer reservoir tank. Do not use the window washer reservoir tank to mix the washer fluid concentrate and water.
WINDSHIELD WIPER BLADES

CLEANING
If your windshield is not clear after using the windshield washer or if a wiper blade chatters when running, wax or other material may be on the blade or windshield.

Clean the outside of the windshield with a washer solution or a mild detergent. Your windshield is clean if beads do not form when rinsing with clear water.

Clean each blade by wiping it with a cloth soaked in a washer solution or a mild detergent. Then rinse the blades with clear water. If your windshield is still not clear after cleaning the blades and using the wiper, replace the blades.

CAUTION
Worn windshield wiper blades can damage the windshield and impair driver vision.

REPLACING
Replace the wiper blades if they are worn.
1. Lift the wiper arm away from the windshield.
2. Push the release tab, then move the wiper blade down the wiper arm to remove.
3. Remove the wiper blade.
4. Insert the new wiper blade onto the wiper arm until it clicks into place.
5. Rotate wiper blade so the dimple is in the groove.

6. Return the wiper to its original position and release it until it has made contact with the windshield. Do not throw the wiper blade away.

CAUTION
- After wiper blade replacement, return the wiper arm to its original position; otherwise it may be damaged when the hood is opened.
- Make sure the wiper blades contact the glass; otherwise the arms may be damaged from wind pressure.