

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

December 5, 2006

PERMIT TO INSTALL

343-06

ISSUED TO

Nissan Technical Center North America, Inc.

LOCATED AT

39001 Sunrise Drive
Farmington Hills, Michigan

IN THE COUNTY OF

Oakland

STATE REGISTRATION NUMBER

N7727

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: November 16, 2006	
DATE PERMIT TO INSTALL APPROVED: December 5, 2006	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	Btu	British Thermal Unit
BACT	Best Available Control Technology	°C	Degrees Celsius
CAA	Clean Air Act	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
EPA	Environmental Protection Agency	gr	Grains
EU	Emission Unit	Hg	Mercury
FG	Flexible Group	hr	Hour
GACS	Gallon of Applied Coating Solids	H ₂ S	Hydrogen Sulfide
GC	General Condition	hp	Horsepower
HAP	Hazardous Air Pollutant	lb	Pound
HVLP	High Volume Low Pressure *	m	Meter
ID	Identification	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	ng	Nanogram
MDEQ	Michigan Department of Environmental Quality	NO _x	Oxides of Nitrogen
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM-10	Particulate Matter less than 10 microns diameter
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonably Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO ₂	Sulfur Dioxide
SCR	Selective Catalytic Reduction	THC	Total Hydrocarbons
SRN	State Registration Number	tpy	Tons per year
TAC	Toxic Air Contaminant	µg	Microgram
TEQ	Toxicity Equivalence Quotient	VOC	Volatile Organic Compound
VE	Visible Emissions	yr	Year

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **[R336.1201(1)]**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **[R336.1201(4)]**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **[R336.1201(6)(b)]**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **[R336.1201(8), Section 5510 of Act 451, PA 1994]**
5. The AQD District Supervisor shall be notified, in writing, of a change in ownership or operational control of the stationary source or emission unit(s) authorized by this Permit to Install pursuant to R336.1219. The notification shall include all of the information required by R336.1219(1)(a) and (b). In addition, a new owner or operator must submit a written statement pursuant to R336.1219(1)(c), agreeing to and accepting the terms and conditions of this Permit to Install, and shall notify the AQD District Supervisor of any change in the contact person for this Permit to Install. **[R336.1219]**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **[R336.1901]**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **[R336.1912]**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law nor does it affect any liability for past violations under the Natural Resources and Environmental Protection Act, 1994 PA 451.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.
11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R336.1303. **[R336.1301]**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this permit to install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R336.1370(2). **[R336.1370]**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R336.2001 and R336.2003, under any of the conditions listed in R336.2001. **[R336.2001]**

SPECIAL CONDITIONS

Emission Unit Identification

Emission Unit ID	Emission Unit Description	Stack Identification
EUTESTCELLS	2 dynamometer engine test cells using diesel, gasoline, and ethanol fuels, including blends of gasoline and ethanol. For the purposes of this permit, gasoline/ethanol blends with an ethanol content of less than 85% will be treated as gasoline and an ethanol content of 85% or greater will be treated as ethanol. The engines may be controlled by catalytic converters or uncontrolled.	SVTESTCELL1 SVTESTCELL2
Changes to the equipment described in this table are subject to the requirements of R336.1201, except as allowed by R336.1278 through R336.1290.		

The following conditions apply to: EUTESTCELLS

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirement(s)
1.1a	NOx	EUTESTCELLS	89 tpy	12-month rolling time period as determined at the end of each calendar month.	See below, and SC 1.6	R336.1205
1.1b	CO	EUTESTCELLS	89 tpy	12-month rolling time period as determined at the end of each calendar month.	See below, and SC 1.7	R336.1205
The permittee shall calculate NOx and CO emissions from EUTESTCELLS based on fuel usage data per Special Condition 1.7, and the worst-case emission factor from testing per General Condition No. 13, if required by the Department, and the emission factors below:						
Gasoline Emission Factor for Uncontrolled Engines NOx = 1.02 lb/gallon gasoline CO = 3.12 lb/gallon gasoline				Gasoline Emission Factor for Controlled Engines NOx = 0.0176 lb/gallon gasoline CO = 0.0940 lb/gallon gasoline		
Ethanol Emission Factor for Uncontrolled Engines NOx = 0.920 lb/gallon gasoline CO = 1.87 lb/gallon gasoline				Ethanol Emission Factor for Controlled Engines NOx = 0.0158 lb/gallon gasoline CO = 0.0564 lb/gallon gasoline		
Diesel Emission Factor for Uncontrolled Engines NOx = 0.604 lb/gallon diesel CO = 0.130 lb/gallon diesel						

Material Usage Limits

- 1.2 The diesel usage for EUTESTCELLS shall not exceed 578,000 gallons per 12-month rolling time period as determined at the end of each calendar month. **[R336.1205, R336.1225, R336.1702(a)]**
- 1.3 The gasoline usage for EUTESTCELLS shall not exceed 57,000 gallons for uncontrolled engines per 12-month rolling time period as determined at the end of each calendar month, or 450,000 gallons for controlled engines per 12-month rolling time period as determined at the end of each calendar month. **[R336.1205, R336.1225, R336.1702(a)]**

- 1.4 The ethanol usage for EUTESTCELLS shall not exceed 95,000 gallons for uncontrolled engines per 12-month rolling time period as determined at the end of each calendar month, or 658,000 gallons for controlled engines per 12-month rolling time period as determined at the end of each calendar month. **[R336.1205, R336.1225, R336.1702(a)]**

Recordkeeping/Reporting/Notification

- 1.5 The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **[R336.1205, R336.1225, R336.1702(a)]**
- 1.6 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month NOx emission calculation records for EUTESTCELLS, as required by SC 1.1a. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **[R336.1205]**
- 1.7 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month CO emission calculation records for EUTESTCELLS, as required by SC 1.1b. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **[R336.1205]**
- 1.8 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month fuel use records for EUTESTCELLS. The records shall specify the fuel usage for engines equipped with catalytic converters and the fuel usage for uncontrolled engines, as well as the type of fuel used. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **[R336.1205, R336.1225, R336.1702 (a)]**

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement(s)
1.9a	SVTESTCELL1	14	39	R336.1225
1.9b	SVTESTCELL2	14	39	R336.1225
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				