Chapter Trans 131

MOTOR VEHICLE INSPECTION AND MAINTENANCE PROGRAM (MVIP)

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Note: Chapter Trans 131 as it existed on June 30, 1993 was repealed and a new ch. Trans 131 was created effective July 1, 1993.

Trans 131.01 Purpose and scope. (1) STATUTORY AUTHORITY. As authorized by ss. 110.06, 110.20 (9) and 227.11 (2) (a), Stats., the purpose of this chapter is to establish the department's administrative interpretation of s. 110.20, Stats., relating to a motor vehicle emissions inspection program.

(2) APPLICABILITY. This chapter applies to all nonexempt vehicles customarily kept in those counties certified by the department of natural resources under s. 110.20 (5) (a), Stats. It also applies to all nonexempt vehicles customarily kept in any county whose board of supervisors has adopted a resolution under s. 110.20 (5) (b), Stats., requesting the department establish an inspection and maintenance program, and applies to any nonexempt vehicle which a person presents for a voluntary inspection at an inspection station pursuant to s. 110.20 (7), Stats., and s. Trans 131.07. For purposes of determining where a vehicle is customarily kept, the county of domicile as indicated by the vehicle owner and contained in the department's title data base shall be used. In the absence of an indicated county of domicile, the owner or lessee's post office address shall be used to determine county of domicile.

Note: Forms used in this chapter are MVD 2016, substitute renewal notice; MVD 2470, vehicle inspection report; MVD 2472, application for letter of temporary exemption from emission test requirements; MVD 2473, fleet station inspection permit; MV 2588, exchanged engine certificate; MV 2594, quality assurance inspection report. Copies can be obtained from the Wisconsin Department of Transportation, Vehicle Emission Section, P. O. Box 8917, Madison, WI 53707–8917.

History: Cr. Register, June, 1993, No. 450, eff. 7-1-93.

Trans 131.02 Definitions. Words and phrases defined in s. 110.20, Stats., have the same meaning in this chapter unless a different definition is specified. In this chapter:

- (1) "Air pollution control equipment" or "emission equipment" means any equipment or feature which constitutes an operational element, device or mechanism which is part of the air pollution control system on a motor vehicle.
 - (2) "CO" means carbon monoxide.
 - (3) "CO2" means carbon dioxide.
- (3m) "Collector vehicle" means a nonexempt vehicle with a collector special interest vehicle registration under s. 341.266, Stats
- (4) "Constant volume sampler" means a system that dilutes the engine exhaust sample with ambient air so that the total combined flow rate of exhaust and dilution air mix is nearly constant for all engine operating conditions.
- (6) "Contractor" means a person with whom the department has a contract that provides for the operation of one or more inspection stations or for the performance of a service related to the Wisconsin vehicle emission inspection program.
- (7) "Department" means the Wisconsin department of transportation.

- (8) "Emission equipment inspection" means an inspection for the presence and proper connection of selected air pollution equipment.
- (9) "Emission limitations" means the maximum vehicle emission concentrations in s. NR 485.04.

Note: Chapter NR 485 may be obtained from the Wisconsin Department of Natural Resources, Bureau of Air Management, P.O. Box 7921, Madison, WI 53707,

- (10) "Emission test" means the transient emission test or 2-speed idle test described in the federal rule, used to determine compliance with applicable vehicle exhaust emission limitations for carbon monoxide, hydrocarbons, and oxides of nitrogen.
- (11) "Evaporative emission test" means the combination of an evaporative emission integrity (pressure) test and an evaporative system purge test of a vehicle's evaporative emission control system.
- (12) "Exempt vehicles" means all vehicles other than nonexempt vehicles which are identified in s. 285.30 (5), Stats., and s. NR 485.04 (10).
- (13) "Exhaust emission" or "exhaust gas" means the combination of substances emitted into the atmosphere from the tail-pipe or tailpipes of a motor vehicle.
- (14) "Fast pass/fail algorithm" means a decision making process that is programmable into a testing system which can logically determine whether or not a vehicle will pass or fail the emission test before completion of the entire inspection.
- (15) "Federal rule" means 40 CFR part 51, subpart S, inspection/maintenance program requirements; final rule.

Note: All references made to the Federal Rule in this document are to 40 CFR Part 51, Subpart S Inspection/Maintenance Program Requirements; Final Rule dated November 5, 1992, as amended on November 9, 1993 and June 23, 1994.

- (16) "Four-wheel drive vehicle" means any constant 4-wheel drive vehicle which cannot be converted to 2-wheel drive except by removing one of the vehicle's drive shafts.
 - (17) "GPM" means grams per mile.
- (18) "GVWR" means gross vehicle weight rating and has the same meaning as provided in s. 340.01 (19r), Stats.
- (19) "Government vehicle" means a motor vehicle both owned by this state or by any county, municipality, or federally-recognized Indian tribe or band and registered under s. 341.26 (2m), Stats., or a vehicle owned or leased by the United States.
 - (20) "HC" means hydrocarbon.

(20m) "Hobbyist vehicle" means a nonexempt vehicle with a hobbyist registration under s. 341.268, Stats.

- (21) "Homemade vehicle" has the same meaning as provided in s. 341.268, Stats.
- (22) "Inspection" means the mandatory vehicle emission inspection required by s. 110.20, Stats.
- (23) "Inspection report" has the same meaning as provided in sub. (54).
- (24) "Inspection station" means an inspection facility operated by a party under contract with the department for the purpose

of conducting vehicle emission inspections required by s. 110.20, Stats

- (25) "Inspector" means the individual who performs the vehicle emission inspection for the contractor.
- (27) "Mass emissions measurement" means measurement of the volume of vehicle exhaust sampled during a transient emissions test measured in mass units of grams per mile.
- (28) "Master automotive technician" means a person possessing the highest level of any nationally recognized certification organization for automotive emission-related diagnosis and repair.
- (29) "Model year" means the date of manufacture of the original vehicle within the annual production period of the vehicle as designated by the manufacturer, or if a reconstructed or homemade vehicle, the first year of titling. If the manufacturer does not designate a production period, the term "model year" means the calendar year of manufacture. Determination of model year shall be as indicated in the VIN or on the vehicle's registration documents.
 - (30) "NDIR" means non-dispersive infra-red.
- (31) "New vehicle" means a motor vehicle to which the legal title has never been transferred to an ultimate retail purchaser as defined in s. Trans 139.02.
 - (32) "NO_x" means nitric oxides of nitrogen.
- (33) "OBD" means the on-board diagnostic system installed on vehicles by the manufacturer to monitor and adjust the performance of emission control equipment as well as store information related to that performance.
- (34) "OBD II" means the on-board diagnostic system installed on 1994 and newer vehicles by the manufacturer that meets the regulations promulgated by the USEPA under 42 USC 7401-7671q.
- (35) "Performance monitoring" means the system of evaluating automotive repair facilities' performance by collecting and reporting the repair data as recorded on the vehicle inspection report.
- (36) "Person" means an individual, corporation, association, firm, partnership, joint stock company, public or municipal corporation, political subdivision, the state or any agency thereof, and the federal government.
- (37) "Proper" or "properly" means meeting original manufacturer's equipment standards or the equivalent.
- (38) "Recognized automotive emission repair technician" means a person who has received and has proof of formal training in both diagnosis and repair of automotive engines and related systems.
- (39) "Recognized repair facility" means a franchised new car dealer or other business with a Wisconsin sales tax number that performs emission repairs as a regular part of its business activities and employs at least one recognized automotive emission repair technician.
- (40) "Reconstructed vehicle" has the same meaning as provided in s. 341.268 (1) (d), Stats.
- (41) "Registration" has the same meaning as provided in s. 344.01 (2) (e), Stats.
- (42) "Remote sensing test" means the test conducted under s. Trans 131,14.
- (43) "Surveillance gas" means a gas used by the department to verify the calibration of emission analyzers used by inspection stations.
- (44) "Tamper" or "tampering" has the same meaning as in s. 285,30 (6) (a) 3., Stats.
- (45) "Technical assistance center" means either a separate contractor facility or a portion of an inspection station which, under the direction of a master automotive technician, is equipped

to perform both emission inspections and complete diagnostic evaluations of nonexempt vehicles.

- (47) "Transient emission test" means an emission test of a vehicle while it is driven through a computer-monitored driving cycle on a dynamometer with power absorption and inertia weight settings appropriate for the vehicle.
- (48) "Truck" has the same meaning as "motor truck" as provided in s. 340,01 (34), Stats.
- (49) "Two speed idie test" means a nontransient, steady-state emission test which measures exhaust emissions at idle using an infrared exhaust gas analyzer.
- (50) "USEPA" means the United States Environmental Protection Agency.
- (50m) "USEPA technical guidance" means the USEPA publication "High-Tech I/M Test Procedures, Emission Standards, Quality Control Requirements, and Equipment Specifications-Revised Technical Guidance", dated April, 1994, which is incorporated herein by reference. Any alternative test procedures or changes in procedural details shall be approved by the USEPA administrator prior to use.

Note: All references made to the USEPA Technical Guidance in this document are to High-Tech I/M Test Procedures, Emission Standards, Quality Control Requirements, and Equipment Specifications-Revised Technical Guidance dated April, 1994. Copies are on file with the Revisor of Statues Bureau and the Attorney General's office. These procedures are available in published form from the Wisconsin Department of Transportation, Bureau of Field Services, P. O. Box 8917, Room 266, Madison, WI 53707-8917.

- (51) "Van" means a motor vehicle constructed on a truck chassis, or indicated as a truck on the manufacturer's statement of origin, with a completely enclosed driver and cargo compartment useable as a cargo carrying vehicle or as a passenger vehicle depending upon equipment.
- (52) "Vehicle" or "motor vehicle" has the same meaning as provided in s. 340.01 (35), Stats.
- (53) "Vehicle inspection notice" means a document mailed to vehicle owners as a result of failing a remote sensing test indicating that the nonexempt vehicle has been inspected in accordance with the provisions of s. Trans 131.14 and, if necessary, shall be presented at an inspection station for inspection under s. 110.20(6) (a)4, Stats.
- (54) "Vehicle inspection report" means a serially numbered document issued at an inspection station or technical assistance center at the time of vehicle inspection, indicating that the vehicle has been inspected in accordance with the provisions of this chapter,
- (55) "VIN" means a unique vehicle identification number as defined in s. 340.01 (23r).
- (56) "Voluntary inspection" means the voluntary presentation of a nonexempt vehicle for an emission inspection.
- (57) "Waiver emission equipment inspection" means a visual inspection conducted to determine the presence and proper connection of selected emission equipment on vehicles presented for waiver determination under s. Trans 131.04.
- (58) "Waiver investigator" means the department employe or designated contractor representative, who approves or disapproves applications for waivers.

Proves applications for Walvers.

History: Cr. Register, June, 1993, No. 450, eff. 7-1-93; emerg. revise eff. 12-4-95; am. (intro.), renum. (1) to (4), (6) to (10), (14) to (16), (18) to (22), (24), (26) to (28) and (34) to (42) to be (2), (3), (6) to (10), (12), (13), (16), (19) to (25), (29) to (32), (36), (37), (41), (43), (44), (48), (51), (52), (54), (56), (58), respectively, and am. (6), (8) to (10), (12), (19), (22), (23), (23), (29), (32), (43), (44), (51), (52), (54), (56), (58), cr. (1), (3m), (4), (14), (15), (18), (20m), (27), (28), (34), (35), (38), (39), (40), (42), (45), (47), (49), (50), (50m), (53), (55) and (57), r. (5), (12), (13), (23), (25), (29), (30), r. and recr. (11), (17), (33), Register, April, 1996, No. 484, eff. 5-1-96; correction in (44) made under s. 13.93 (2m) (b) 7., Stats., Register, April, 1999, No. 520.

Trans 131.03 Emission test, emission equipment inspection, evaporative emission test, on-board diagnostic checks, and reinspection. (1) GENERAL. (a) All

nonexempt vehicles that are customarily kept in counties certified under s. 110.20 (5) (a), Stats., or in a county whose county board adopts a resolution under s. 110.20 (5) (b), Stats., shall be inspected at an inspection station. Penalty for failure to comply with this section consists of either denial of registration renewal or suspension of vehicle registration as set forth in s. 341.63 (1) (e), Stats. To reinstate vehicle registration, a fee prescribed by s. 341.36 (1), Stats., is required.

Note: The 6 counties of Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha were certified by the department of natural resources in a letter to the department dated August 21, 1981. Sheboygan County was certified by the department of natural resources in a letter to the department dated April 20, 1992.

- (b) Nothing in this chapter waives an expired registration because of failure to pass inspection requirements by the registration deadline.
- (c) Following initial registration of a new vehicle by a retail purchaser, a minimum of one model year shall elapse prior to the vehicle becoming subject to the requirements of this chapter.
- (d) For purposes of calculating the number of model years of vehicle age under ss. 110.20 (13) and 285.30 (5), Stats., a model year shall be considered synonymous with a calendar year. Not satisfying the inspection requirements of this chapter prior to the date of registration expiration shall not extend vehicle age.

Note: For example, a 1993 model year vehicle shall be considered as being more than 5 model years old commencing January 1, 1998.

- (2) WHEN INSPECTION REQUIRED. Nonexempt vehicles subject to an inspection shall have the inspection completed at an inspection station when any of the following apply:
- (a) No more than 90 days prior to renewal of annual registration. In the 2nd year after the nonexempt vehicle's model year and every 2 years thereafter.
- (b) Within 45 days of an ownership change registration issuance for vehicles more than 5 model years old at the time of ownership change, unless the vehicle passed inspection within 90 days prior to such ownership change registration, or

Note: For example, a 1996 model year vehicle shall be considered as being more than 5 model years old commencing January 1, 2001.

- (c) Within 45 days of notification of failing a remote sensing test, as required by s. 110.20 (9) (g), Stats.
- (d) Within 45 days of collector or hobbyist registration issuance.
- (3) DOCUMENT REQUIREMENTS. Each vehicle presented for inspection at an inspection station shall be accompanied by at least one of the following documents which identifies the vehicle by make, model year, VIN, and license plate number:
 - (a) A current Wisconsin vehicle license renewal notice.
 - (b) A current Wisconsin certificate of registration.
 - (c) A current Wisconsin certificate of title.
 - (d) A vehicle inspection report if a reinspection.
 - (e) A letter of temporary exemption issued by the department.
- (f) A properly completed substitute renewal notice, form MVD 2016.
- (g) A letter issued by the department notifying the vehicle owner that the vehicle requires inspection.
- (h) A properly completed voluntary inspection request form, obtainable from the manager at each of the inspection stations.
- (4) SCOPE AND NATURE OF TEST. The vehicle emission test shall consist of sampling the exhaust emissions from the tailpipe or tailpipes, and measuring the hydrocarbons, carbon monoxide, carbon dioxide and oxides of nitrogen.
- (5) Emission Standards. Vehicles that do not meet the exhaust emission standards under ch. NR 485 shall fail the emission test portion of the inspection.
- (6) EMISSION TESTING. (a) General requirements. 1. Vehicles shall be tested in an as-received condition. Prior to testing, the engine shall be operating at the manufacturer's recommended engine idle speed without excessive smoke, at normal operating

temperature, not overheating, as indicated by gauge, warning light or boiling radiator, and with all accessories off.

- The vehicle shall be nearly level when tested in order to prevent abnormal fuel distribution;
- Vehicles with multiple exhaust pipes may be tested by simultaneous sampling of all tailpipes, or by sampling each tailpipe separately and numerically averaging the emissions measurements.
- 4. Vehicles that are designed to operate with more than one type of fuel shall be tested on the fuel in use at the time of inspection.
- (b) Transient emission test procedures. 1. The transient emission test shall consist of 240 seconds of mass emission measurement using a constant volume sampler while the vehicle, driven by an inspector, completes a computer-monitored driving cycle on a dynamometer with power absorption and inertia weight settings appropriate for the weight of the vehicle. The driving cycle shall include acceleration, deceleration, and idle operating modes as specified in Table 2. The 240 second sequence may be ended earlier using fast pass/fail algorithms approved either by the Wisconsin department of natural resources or USEPA. Multiple fast pass/fail algorithms may be used during the test cycle to eliminate false failures. Drive gear shall be used for automatic transmissions and first gear shall be used for manual transmissions to begin the test. Overdrive shall not be used for manual transmissions. Exhaust emissions concentrations in grams per mile shall be recorded continuously for each second of the test. The contractor shall employ appropriate measures to ensure that exhaust sample dilution does not exceed USEPA recommendations. The emission testing shall follow procedures set forth in the USEPA technical guidance.
- 2. The set of exhaust mass emission values achieved by the vehicle during the transient test shall determine compliance with the HC, CO, and NO_x emission limitations of s. NR 485.04.
- 3. Vehicles queued in the inspection lane for more than 20 minutes which fall the transient emission test cycle at or below 1.5 times the emission limitations shall receive a second chance emission test.
- 4. Vehicles which "stall" during the emission test shall receive both a void test and another emission test. More than 3 "stalls" shall result in a rejection from testing.
- Vehicles for which the operator refuses to yield the driver's seat to the inspector shall be rejected from testing.
- 6. Vehicles registered under s. 341.14 (1m), Stats., that are equipped with customized controls for the accelerator, brake or clutch, or both, which are presented for inspection, but are unable to be inspected due to the inspector's inability to use the customized controls, shall be inspected according to the 2-speed idle test procedure specified by the USEPA in the federal rule and shall receive an evaporative emission integrity (pressure) test according to sub. (8) and an emission equipment inspection according to sub. (7). Vehicles that do not meet the 2-speed idle emission standards, or the evaporative emission integrity (pressure) standards under ch. NR 485 or fail the emission equipment inspection under sub. (7) shall fail the inspection. The inspector shall provide the operator of any vehicle failing the 2-speed idle test with any diagnostic information obtained during the inspection.
- 7. Vehicles unable to attain the speeds prescribed in the USEPA technical guidance during accelerations may complete the transient emission test provided the vehicle operates at maximum available power during such accelerations until the vehicle speed falls within the excursion limits.
- 8. During the first 24 months of transient emission testing conducted under this section, the department may, on a temporary basis, modify the transient emission test procedure in order to maintain an acceptable level of motorist convenience. The inspection procedure may be modified by using the USEPA

approved fast pass/fail algorithms, or suspending inspection for NO_{κ} .

- (c) Two-speed idle test procedures. The 2-speed idle test shall be performed according to the procedures specified in paragraph (II) of appendix B to subpart S of the federal rule.
- (7) EMISSION EQUIPMENT INSPECTION. (a) An emission equipment inspection shall be performed on nonexempt vehicles customarily kept in a county identified in s. 110.20 (5), Stats., whenever a nontransient emissions inspection is performed. This emission equipment inspection is designed to detect either tampering or disrepair on the vehicle. This emission equipment inspection, conducted by the contractor to determine the presence, if originally equipped, of all of the following:
 - 1. A proper fuel filler restricter.
 - 2. A proper catalytic converter.
 - A proper fuel cap.
 - 4. A proper evaporative emission control canister.
 - 5. A proper positive crankcase ventilation system.
 - A proper exhaust gas recirculation system.
 - 7. A proper air injection system.
 - 8. A proper thermostatic air cleaner.
 - 9. A proper oxygen sensor.
- (b) Vehicles shall be inspected for the emission equipment under par. (a) using the model year of the vehicle as indicated on the vehicle's registration documents, except as allowed by subs. (12) and (13). Vehicles which meet the emission equipment requirements of this subsection, as applicable, shall pass the emission equipment portion of the inspection. Vehicles which fail to meet the emission equipment requirements of this subsection, as applicable, shall fail the emission equipment portion of the inspection.
- (c) Failing the emission equipment inspection is considered the same as failing the inspection. Vehicles failing the emission equipment inspection shall not be reregistered within the state of Wisconsin until such failing items have been repaired or replaced if necessary as required by s. 285.30 (6), Stats.
- (8) EVAPORATIVE EMISSION INTEGRITY (PRESSURE) TESTING. (a) Nonexempt vehicles, model years 1971 and newer, are subject to evaporative emission system integrity (pressure) testing as part of the emission inspection. The evaporative emission integrity (pressure) test shall include either the procedure specified in par. (b) or (c), or both.
- (b) The evaporative emission system integrity (pressure) test sequence shall consist of the following steps:
- 1. The test equipment is connected to the fuel tank canister hose at the canister end. The gas cap is checked to ensure that it is properly, but not excessively, tightened.
- 2. The system is pressurized to 14 ±0.5 inches of water without exceeding 26 inches of water system pressure.
- 3. The pressure source is closed off, the evaporative system sealed and the pressure decay monitored for up to 2 minutes.
- 4. The gas cap is loosened after a maximum of 2 minutes and monitored for a sudden pressure drop, indicating that the fuel tank was pressurized.
- The inspector shall ensure that all items that are disconnected in the conduct of the test procedure are properly re-connected at the conclusion of the test procedure.
- (c) The evaporative emission system gas cap integrity test sequence shall consist of the following steps:
- 1. The gas cap is removed from the vehicle and is attached to the gas cap tester rig.
 - 2. The gas cap is pressurized to 28 \pm 1.0 inches of water.
- The pressure source is closed off, and the pressure decay is monitored during a 10 second period.
- 4. The inspector shall ensure that the gas cap is properly reconnected at the conclusion of the test procedure.

- (d) Evaporative systems which cannot maintain a system pressure meeting the gas cap integrity standard or the evaporative emission system integrity (pressure) standard of ch. NR 485 or those which show no pressure drop when the gas cap is loosened shall fail the evaporative emission system integrity (pressure) test. Additionally, vehicles shall fail the evaporative emission system integrity (pressure) test if the evaporative emissions canister is missing or obviously damaged, if hoses are missing or obviously disconnected, or if the gas cap is missing, except as allowed by subs. (13) and (14).
- (e) Vehicles that fail the evaporative emission system integrity (pressure) test shall fail the inspection.
- (f) Alternative evaporative emission system integrity (pressure) test procedures and standards, or fast pass/fail algorithms may be used if approved by the USEPA.
- (g) During the first 24 months of emission testing conducted under this section, the department may either phase in or temporarily omit the evaporative emission system integrity (pressure) test.
- (9) EVAPORATIVE EMISSION PURGE TESTING. (a) Nonexempt vehicles, model years 1971 and newer, are subject to evaporative emission system purge testing as part of the emission inspection.
- (b) The evaporative system purge test procedure shall consist of connecting the purge flow measurement system to the purge portion of the evaporative system in series between the canister and the engine. The total purge flow occurring in the vehicle's evaporative system during the transient dynamometer emission test specified in s. Trans 131.03 (6) (b) shall be measured in liters.
- (c) Vehicles shall fail the purge test when the total volume of flow occurring in the vehicle's evaporative system during the transient dynamometer emission test does not meet the evaporative emission purge test standards of ch. NR 485. Additionally, vehicles shall fail the evaporative system purge test if the evaporative emissions canister is missing or obviously damaged, if hoses are missing or obviously disconnected, or if the gas cap is missing, except as allowed by subs. (13) and (14). The inspector shall ensure that all items that are disconnected in the conduct of the test procedure are properly re-connected at the conclusion of the test procedure.
- (d) Vehicles that fail the evaporative emission system purge test shall fail the inspection.
- (e) Vehicles that exhibit significant purge activity during the driving cycle but do not accumulate 1 liter of purge shall receive a second chance purge test. The second chance test may consist of either the complete transient driving cycle or modified sequences of shorter duration designed to rapidly produce purge activity.
- (f) Alternative evaporative emission purge test procedures and standards, or fast pass/fail algorithms may be used if approved by the USEPA.
- (g) During the first 24 months of transient emission testing conducted under this section, the department may either phase in or temporarily omit the evaporative emission purge test.
- (10) REINSPECTIONS. (a) Vehicles failing initial inspection may receive a reinspection at no additional charge under the following conditions:
- 1. The reinspection shall take place within 30 days of the initial inspection or the owner or lessee shall present satisfactory evidence that the repairs and adjustments which were performed on the vehicle could not have been made within 30 days of the initial inspection. Additionally, the vehicle shall have been repaired or adjusted according to s. 110.20, Stats., and this chapter.
- 2. The vehicle shall be accompanied by its previous vehicle inspection reports. Repair information, as completed by the person performing the repairs, shall be indicated in the space provided on the reports. The completed repair section on the vehicle inspection report shall indicate all of the following:

- a. The repairs performed as well as any recognized automotive emission repair technician recommended repairs not performed per owner's request.
- b. The name, address and telephone number of the repair facility.
 - c. The name of the individual who performed the repairs.
- d. If available, the appropriate identification number of the recognized repair facility and technician.
- 3. The vehicle is not prohibited from testing pursuant to sub. (11).
- (b) A vehicle shall be reinspected after repair for any portion of the inspection that it failed on the previous test. To the extent that repair to correct a previous failure could lead to failure of another portion of the test, that portion shall also be reinspected.

Note: For example, evaporative system purge repair triggers the performing of both a transient emission test and evaporative emission purge test for reinspection.

- (c) If the vehicle passes the reinspection, the contractor shall retain all previously—issued vehicle inspection reports and issue a vehicle inspection report indicating compliance. If the vehicle does not pass the reinspection, the contractor shall issue a vehicle inspection report indicating non-compliance. If the owner or lessee requests a waiver of compliance from emission limitations, the waiver investigator shall review the request and shall either approve or deny the request in accord with s. Trans 131.04. If approved, the waiver investigator shall retain all previously—issued vehicle inspection reports, except the latest on which the waiver is indicated as granted.
- (d) The following limitations on the total number of inspections performed at no additional charge shall apply for each vehicle requiring compliance with this chapter:
- 1. A vehicle may receive no more than 2 reinspections. The reinspections shall occur within 30 days of initial inspection.
- 2. If the vehicle does not meet applicable emission limitations, the owner or lessee may apply for a waiver of compliance from emission test standards in accord with s. Trans 131.04.
- (e) Nonexempt vehicles may be reinspected at any time according to the voluntary inspection procedure of s. Trans 131.07.
- (11) TESTING PROHIBITED. The inspector shall refuse to perform any inspection required by this section for any vehicle if any of the following apply:
- (a) The vehicle does not attain the gas measurement standard for exhaust sample validity, or where a leaking exhaust system is evidenced through audial assessment. When the vehicle does not produce a valid exhaust gas sample, a vehicle rejection report indicating an invalid test shall be printed. The motorist shall receive written information indicating the possible causes for the invalid test condition.
- (b) The vehicle is carrying explosives or other hazardous material which is recognized as a safety hazard by the contractor.
- (c) The vehicle is towing a trailer or another vehicle which is considered a safety hazard by the contractor.
- (d) Gasoline, oil or other fluid leaks are considered a safety hazard by the contractor.
- (e) The vehicle exhibits excessive idle speed, in the judgment of the contractor.
- (f) The vehicle is emitting smoke in amounts greater than the limitations specified in s. NR 485.05.
- (g) The vehicle has a tire on a driving wheel with less than 2/32 inch of tread, with metal protuberances, or with obviously low tire pressure, as determined by visual inspection, or has obvious cuts, snags or knots.
- (h) One or more of the vehicle's tires on the drive axle are unmatched, as measured by diameter, are marked "off highway use only" or "for racing only" or are of emergency spare tire size.

 (i) The vehicle exhibits load engine knocking, indicating a potential engine problem.

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- (j) The vehicle is subject to a manufacturer's recall for emission problems and the recall repair has not been performed. Vehicles for which emission-related recall notices have been issued shall have the recall repairs completed prior to submitting the vehicle for inspection. The owners or lessees of these vehicles shall present proof of compliance with the recall notice at time of inspection, unless the emission-related recall notice has been issued within 45 days prior to submitting the vehicle for inspection. This paragraph applies to vehicles for which emission-related recall notices have been issued after January 1, 1995.
- (k) The vehicle operator refuses to disclose the odometer reading to the inspector.
 - (L) The vehicle operator refuses to yield the driver's seat.
- (m) Upon a reinspection, the vehicle operator fails to provide a properly completed repair form to the inspector.
- (n) The vehicle exhibits any condition which is recognized as a safety hazard by the contractor.
- (12) RECONSTRUCTED AND HOMEMADE VEHICLES. Any nonexempt vehicle registered as reconstructed or homemade under s. 341.268, Stats., shall be inspected for compliance with both the exhaust emission standards and emission equipment requirements applicable to the model year of the vehicle as indicated on the vehicle's registration documents, unless the owner both requests that the vehicle be inspected by engine year and provides a completed MV2588, exchanged engine certification form, to the waiver investigator. In addition, the vehicle owner shall locate the engine number on the engine for purposes of engine year verification by the waiver investigator.
- (13) VEHICLES WITH EXCHANGED ENGINES. (a) A motor vehicle with an exchanged engine shall be inspected for compliance with the emission standards applicable to the model year of the vehicle.
- (b) The owner of a vehicle of model year 1968 through model year 1980 may request that the vehicle be inspected for compliance with the underhood emission equipment requirements applicable to the engine year if the owner provides a completed MV2588, exchanged engine certification form, to the waiver investigator. In addition, the vehicle owner shall locate the engine number on the engine for purposes of engine year verification by the waiver investigator.
- (c) The owner of a vehicle of model year 1981 through model year 1992 may request that the vehicle be inspected for compliance with the underhood emission equipment requirements applicable to the engine year if an engine exchange certificate for that vehicle has been filed with the department prior to December 31, 1992, and if the owner provides a completed MV2588, exchanged engine certification form, to the waiver investigator. In addition, the vehicle owner shall locate the engine number on the engine for purposes of engine verification by the waiver investigator.
- (d) Vehicles of model year 1993 or newer are not eligible for engine exchange consideration.
- (14) TRUCKS AND VANS. All trucks and vans shall be inspected in accord with the exhaust emission standards, emission equipment and evaporative emission standards applicable to the manufacturer's GVWR as indicated either in the vehicle's identification number or on the vehicle's doorpost. If there is no manufacturer's GVWR available, then the vehicle shall be inspected according to the registered GVWR as indicated on the vehicle's entry document described in sub. (3).
- (15) VEHICLE INSPECTION REPORT. (a) The operator of each vehicle inspected shall receive a vehicle inspection report, MVD2470, at the conclusion of the inspection. The inspection report shall indicate:
 - 1. Test serial number.

- 2. Date of the test.
- 3. VIN.
- 4. Year, make and type of the vehicle.
- 5. Number of cylinders or engine displacement.
- 6. Transmission type.
- 7. Fuel type.
- 8. Present odometer reading in thousands of miles.
- Carbon monoxide, hydrocarbon, carbon dioxide and nitrogen oxides emission scores and applicable emission limitations for the vehicle.
- 10. Evaporative emission integrity (pressure) test results expressed as a pass or fail.
- 11. Evaporative emission purge test results expressed as a pass or fail.
 - 12. The results of any OBD or OBD II test.
 - 13. The final result.
- 14. Instructions indicating that the inspection report, together with the vehicle, shall be returned to any inspection station for reinspection to occur.
- 15. Space to indicate who repaired the vehicle, such as owner, repair facility or other private party.
- Space to indicate the name, address and telephone number of the facility where repairs occurred.
- 17. Space to indicate the appropriate identification number of the recognized repair facility and technician, if available.
- 18. Space to indicate the cost of parts and labor for emission-related repair.
 - 19. Space to indicate the emission-related repairs performed.
- 20. Space to indicate the emission-related repairs recommended, but not performed per owner's request.
 - 21. Advisory diagnostic information for failing vehicles.
 - 22. Vehicle license number, if available.
 - 23. Inspection station and inspector numbers.
- 24. Emission test start time and the time of final emissions result determination.
 - GVWR.
- 26. Inspection number, such as initial, first reinspection, or subsequent reinspection number.
 - 27. Result of any applicable emission equipment inspection.
- 28. A statement indicating the availability of emission warranty coverage as provided in section 207 of the Clean Air Act.
- 29. A statement certifying that the test is performed in accordance with applicable federal regulations.
 - 30. The cause for any aborted or rejected inspection.
- 31. Other information as the department may reasonably require to enable it to determine compliance with this chapter, state laws, federal laws and regulations.
- (b) Each operator of a vehicle failing any portion of the inspection shall receive an inspection report supplement containing repair, reinspection and waiver application instructions, as well as information on the possible causes of failure found during the inspection.
- (c) Each operator of a vehicle failing any portion of the initial inspection shall receive a list of registered automotive emission repair facilities by emission inspection station area which includes information required under s. Trans 131.15. This listing may include other consumer information useful in obtaining vehicle emission repair service.

History: Cr. Register, June, 1993, No. 450, eff. 7-1-93; am. (i) (a), (2) (intro.), (a), (b), (3) (intro.), (6) (a) 1., (7) (a) to (c), r. and recr. (2) (c), (6) (b), (c), cr. (2) (d), (6) (a) 4., r. (3) (f), (7) (d), (8), (9), renum. (3) (g) to (i) to be (f) to (h), (10) and (12) to be (12) and (14) and am. ali, renum. (11) to be (13) and am. (b) and (c), renum. (8), (9) and (13) to be (10), (11) and (13) and r. and recr., Register, April, 1996, No. 484, eff. 5-1-96; correction in (1) (d) and (7) (c) made unders. 13.93 (2m) (b) 7. Stats., Register, April, 1999, No. 520.

- Trans 131.04 Waiver of compliance. (1) ELIGIBILITY. A vehicle which fails to pass the designated emission test standards upon an initial inspection, and which after repair or adjustment, or both, again fails to pass the emission inspection, shall be eligible for a waiver of compliance valid until the next required inspection of the vehicle provided the following conditions are met:
- (a) For all 1981 and newer model year vehicles which have not exceeded the terms of the manufacturer's emission performance or defect warranty coverage at the time of the scheduled emission inspection, the operator shall either present a written statement from a vehicle dealership or other manufacturer's designated agent declaring that the vehicle is not eligible for emission control system warranty work, or present a dated invoice indicating that the vehicle has received eligible emission control system warranty work.
- (b) The emission related repairs and adjustments made to the vehicle's emission control system, including costs for parts and labor, have been performed on the vehicle within 90 days prior to renewal of annual registration or within 90 days of vehicle ownership change registration and such repairs and adjustments are indicated in the space provided on the vehicle inspection report by the person performing the repairs. If the labor for vehicle repair is performed without charge or cost, only the cost of replacement parts shall be indicated. An itemized receipt indicating the parts, labor cost, and date of purchase shall be provided to the waiver investigator.
- (c) 1. For all 1981 and newer model year vehicles which have exceeded the terms of the manufacturer's emission performance or defect warranty coverage at the time of the scheduled emission inspection, the owner shall have emission related repairs performed on the vehicle at a recognized repair facility as defined in s. Trans 131.02 (39) or by a recognized automotive emission repair technician as defined in s. Trans 131.02 (38). The operator shall present a vehicle inspection report with the repair information section completed according to s. Trans 131.03 (13). The statement shall contain the actual cost of emission related repairs performed on the vehicle including itemized costs for parts and labor. If the labor for vehicle repair is performed without charge or cost, only the cost of replacement parts shall be indicated. An itemized receipt indicating the parts, labor cost and date of repair shall be provided to the waiver investigator.
- 2. Through the period ending November 30, 1997, proof of recognized automotive emission repair technician training shall consist of either National Institute for Automotive Excellence (ASE) certification in level 6, 8, L1, or valid documentation indicating successful completion of a Wisconsin emission technician training (WISETECH) course under s. Trans 131.16, or an equivalent program as determined by the department. After November 30, 1997, proof of this training shall consist of either ASE certification in level L1, or valid documentation indicating successful completion of a WISETECH course under s. Trans 131.16 or an equivalent program as determined by the department.
- (d) The vehicle shall pass a waiver emission equipment inspection as described in s. Trans 131.05.
- (2) CRITERIA. A vehicle which meets the eligibility requirements of sub. (1) may receive a waiver of compliance valid until the next required inspection of the vehicle if it meets any one of the following conditions:
- (a) The owner presents satisfactory evidence to the department that the actual cost of emission related repairs performed on the vehicle as reported in accord with sub. (1) (b) or (c) exceeds the repair cost limit as provided in s. 110.20 (13), Stats. Costs covered by any warranty and costs incurred to repair or replace any missing or tampered emission control device do not count toward the waiver repair cost limit.
- (b) Technical difficulties in the manufacturer's design or construction of the vehicle or restrictions imposed by the depart-

ment on the operation of vehicles registered under s. 341.14 (1m), Stats., prevent emission testing of the vehicle.

(c) After repairs are performed by a recognized automotive emission technician, a complete, documented, physical and functional diagnosis and inspection performed at one of the technical assistance centers by the master automotive technician shows that no additional emission related repairs could produce a passing result

History: Cr. Register, June, 1993, No. 450, eff. 7–1–93; emerg. ant. (1) (intro.), (a) and (b), (2) (intro.), (a) and (b), r. and recr. (1) (c), cr. (1) (d) and (2) (c), eff. 12–4–95; am. (1) (intro.), (a), (b), (2) (intro.), (a), (b), r. and recr. (1) (c), cr. (i) (d), (2) (c), Register, April, 1996, No. 484, eff. 5–1–96.

Trans 131.05 Walver emission equipment inspection. (1) PURPOSE. When a vehicle owner or lessee requests a waiver of compliance from emission test standards, the emission equipment shall be inspected by the waiver investigator. This waiver emission equipment inspection is designed to detect either tampering or disrepair on the vehicle. The waiver emission equipment inspection does not include removal or disassembly of parts except for removal of the fuel cap. The waiver investigator shall determine both the presence and proper connection, if originally equipped, of the following:

- (a) A properly sized fuel filler restrictor.
- (b) A properly connected catalytic converter.
- (c) A proper fuel cap.
- (d) A proper evaporative emission control canister system.
- (e) A properly connected positive crankcase ventilation system.
 - (f) A proper exhaust gas recirculation system.
 - (g) A proper air pump system.
 - (h) A properly installed thermostatic air cleaner system.
 - (i) A properly connected oxygen sensor.
- (j) An operational and non-active "check engine" or other emission service indicator light.
- (2) EXCEPTION. The owner of a vehicle with an exchanged engine may request that the vehicle be inspected for compliance with the emission equipment requirements applicable to the engine year, if the vehicle meets conditions in s. Trans 131.03 (12) or (13).
- (3) Consequences. Vehicles failing the waiver emission equipment inspection shall not receive a waiver of compliance or acceptance for voluntary testing under s. Trans 131.07 until the failing emission equipment items are either repaired or replaced, except as allowed by s. Trans 131.03 (12) or (13).

History: Cr. Register, June, 1993, No. 450, eff. 7-1-93; emerg. am. (1) to (3), cr. (1) (i) and (j), eff. 12-4-95; am. (1), (2), (3), cr. (1) (i), (j), Register, April, 1996, No. 484, eff. 5-1-96.

Trans 131.06 Inspection compliance. (1) REGISTRA-TION BLIGIBILITY. To be eligible for license plate renewal or ownership change registration, collector registration, or hobbyist registration, a vehicle shall comply with one of the following:

- (a) Bither pass the emission inspection or receive a waiver of compliance from emission limitations.
- (b) Receive a temporary exemption according to s. Trans 131.08.
- (2) EVIDENCE. Evidence of inspection compliance shall consist of one of the following:
- (a) A vehicle inspection report indicating either "passed" or on which the waiver investigator has indicated "waived."
- (b) An entry on the department's data records indicating the vehicle license number, VIN, test serial number, and the notation "passed" or "waived."

History: Cr. Register, June, 1993, No. 450, eff. 7-1-93; emerg. am. (1) (intro.) and (2), r. (1) (a), renum. (1) (b) and am., eff. 12-4-95; am. (1) (intro.), (2), r. (1) (a), renum. (1) (b) to be (a) and am., cr. (1) (b), Register, April, 1996, No. 484, eff. 5-1-96.

- Trans 131.07 Voluntary inspections. (1) CRITERIA. The contractor shall inspect any nonexempt vehicle presented for inspection at an inspection station provided:
- (a) The vehicle operator provides a properly completed request for voluntary emission inspection form, obtainable from the manager at each of the emission inspection stations.
- (b) The vehicle is not prohibited from testing under s. Trans 131.03 (11).
- (c) The operator presents payment to the contractor of a monetary fee as determined by contract.
- (2) EFFECT. The voluntary presentation of a vehicle for inspection in accordance with sub. (1) shall not impose any requirement upon a vehicle owner to comply with this chapter except for the repair or replacement of any failing emission equipment inspection items as required under s. Trans 131.03 (7) (c).

History: Cr. Register, June, 1993, No. 450, eff. 7-1-93; emerg. am. eff. 12-4-95; am. Register, April, 1996, No. 484, eff. 5-1-96.

Trans 131.08 Letter of temporary exemption from emission inspection requirements. (1) ELIGIBILITY. When a vehicle subject to the emission inspection requirements of this chapter is unavailable for an inspection due to either the vehicle's absence or inoperative condition, or the owner's or lessee's absence or incapacity, during the 90 day period prior to the license expiration date, or within 45 days of an ownership change registration or registration as a collector or hobbyist vehicle, and inspection is not available under s. Trans 131.10, the owner or lessee may request of the department a letter of temporary exemption from the requirements of this chapter.

- (2) APPLICATION. The department shall provide an application form, MVD2472, on which the vehicle owner or lessee shall state their name, permanent address, temporary address, if used, and daytime telephone number. The vehicle owner or lessee shall identify the vehicle involved, provide the reason for requesting a letter of temporary exemption, certify that the vehicle is unavailable for emission inspection, and state the date when the vehicle will again be operated within a Wisconsin county subject to the emission inspection requirements of this chapter.
- (3) ISSUANCE. Upon approval of the application by the department, a letter of temporary exemption shall be issued to the vehicle owner or lessee. Such approval letter shall allow the owner or lessee to proceed with vehicle registration renewal. As a condition of granting the letter of temporary exemption, the department shall require that the vehicle be inspected within 30 days of the date the applicant indicates that the vehicle will again be operated within a Wisconsin county subject to the emission inspection requirements of this chapter.
- (4) DURATION. A letter of temporary exemption shall not be valid longer than the period of registration renewal.

History: Cr. Register, June, 1993, No. 450, eff. 7-1-93; emerg. am., eff. 12-4-95; am. (1) to (3), Register, April, 1996, No. 484, eff. 5-1-96.

Trans 131.09 Temporary operating permits. (1) GENERAL. The department or its designated representative may issue a temporary operating permit, valid for not more than 30 days, to allow time for inspection and necessary repairs and adjustments of any vehicle subject to inspection under s. 110.20 (6), Stats. No temporary operating permit shall be issued for a vehicle with registration expired for more than 90 days.

- (2) APPLICATION. The department shall provide an application form, MV2505, on which the vehicle owner or lessee shall state their name, permanent address, and daytime telephone number. The vehicle owner or lessee shall identify the vehicle involved, and provide the reason for requesting a temporary operating permit.
- (3) ISSUANCE. Upon receipt of the fee under s. 341.36 (1), Stats., and approval of the application, the department shall issue a temporary license plate to the vehicle owner or lessee. Such plate shall contain the date of expiration. The owner or lessee shall

affix the temporary license plate to the vehicle in accord with the requirements of s. 341.09 (5), Stats.

(4) TERM. A temporary operating permit shall be valid for 30 days after issuance. The department may approve the application for a second or third temporary operating permit provided that application is made within 90 days of the vehicle's registration expiration date.

History: Emerg. cr., eff. 12-4-95; cr. Register, April, 1996, No. 484, eff. 5-1-96; correction in (3) made unders. 13,93 (2m) (b) 7., Stats., Register, April, 1999, No. 520.

- Trans 131.10 Reciprocity. (1) COMPLIANCE. When a vehicle subject to the emission inspection requirements of this chapter is unavailable for an inspection due to the vehicle's absence from the Wisconsin inspection area during the 90 day period prior to the license expiration date, or within 45 days of an ownership change registration or registration as a collector or hobbyist vehicle, but is operating in another nonattainment area requiring vehicle emission inspections, the owner or lessee shall submit an official vehicle inspection report, or the equivalent document, from that area indicating that the vehicle has passed the emission inspection in that area.
- (2) REGISTRATION ELIGIBILITY. The submission of satisfactory evidence of emission inspection compliance from another nonattainment area shall allow the owner or lessee to proceed with vehicle registration renewal or to satisfy ownership change, collector, or hobbyist vehicle registration inspection requirements.
- (3) EXCEPTION. When a vehicle operates in a nonattainment area which does not allow the inspection of vehicles from other nonattainment areas, the owner or lessee may apply for a temporary exemption under s. Trans 131.08.

History: Emerg. cr., eff. 12-4-95; cr. Register, April, 1996, No. 484, eff. 5-1-96.

- Trans 131.11 Audits of inspection facilities. (1) GENERAL. Representatives of the department or its designated agent shall conduct audits of testing equipment, procedures, personnel and records as follows:
- (a) All contractor inspection functions, including those occurring at the inspection stations, technical assistance centers and vehicles used to conduct remote sensing, shall be audited on an unscheduled basis, at a minimum, according to the frequency established in the federal rule.
 - (b) Scheduled audits may be performed at any time.
- (c) Either the department or its agent may conduct covert audits in order to satisfy the requirements of the federal rule.
- (d) Audits shall be performed according to written procedures either established or approved by the department.
- (2) EQUIPMENT AUDITS. (a) Equipment used to perform transient emission tests shall be audited to determine the proper:
 - 1. Constant volume sampler critical flow and calibration.
- 2. Optimization of the flame ionization detector fuel or air ratio using methane.
 - 3. Dynamometer coast down, roll distance and inertia weight,
 - 4. Ability to detect background pollutant concentrations.
- 5. Accuracy, response time and overall operation of the evaporative purge and integrity (pressure) analysis systems.
- (b) Equipment used to perform 2-speed idle tests shall be audited to determine conformance with the quality control requirements of paragraph (I) of appendix A of the federal rule.
- (c) Equipment used to perform remote sensing tests shall be audited according to written procedures either established or approved by the department.
- (d) If equipment fails to operate within contractually specified tolerance during an overt or covert audit, the department's quality assurance auditor shall immediately re-audit the failing equipment. If the equipment fails again, the department's quality assurance auditor shall require the station manager to close the affected lane or emission test operation until such time as the equipment

is properly repaired and documentation of corrective actions is available for review by the department.

- (3) PENALTIES. (a) Equipment failure shall result in the imposition of a penalty. Penalties are established in the penalty schedule section of the contract and may require that the contractor either incur liquidated damages or suspend or revoke inspector licenses, or both.
- (b) Contractor employes, removed from inspection duties through either suspension or revocation of their inspection license as a result of a department audit, may appeal the contractor's suspension or revocation to the department's hearing officer. In the case of immediate suspension due to a department audit, a hearing shall occur within 14 calendar days of receipt of a written request by the employe. Failure to hold a hearing within 14 days when requested shall cause the suspension or revocation to lapse.

History: Cr. Register, June, 1993, No. 450, eff. 7-1-93; renum. Trans 131,09 to be 131.11 and r. and recr., Register, April, 1996, No. 484, eff. 5-1-96.

- Trans 131.12 Equipment specifications and quality control. (1) GENERAL. All equipment utilized for emission inspections shall be calibrated and maintained according to the standards established in the federal rule.
- (2) SPECIFICATIONS. (a) The equipment used for transient vehicle emission testing shall meet the requirements of the USEPA technical guidance section 85.2226.
- (b) The equipment used for 2-speed idle testing shall meet the requirements of appendix D to subpart S of the federal rule.
- (c) The equipment used for vehicle evaporative emission testing shall meet the requirements of the USEPA technical guidance section 85.2227.
- (3) QUALITY CONTROL. All equipment used in the emission testing process shall be calibrated and maintained according to the procedures specified in the federal rule and USEPA technical guidance sections 85.2234 and 85.2235.

History: Cr. Register, June, 1993, No. 450, cff. 7-1-93; renum, Trans 131.10 to be 131.12 and r. and recr., Register, April, 1996, No. 484, cff. 5-1-96.

- Trans 131.13 Licensing of inspectors. (1) Training. (a) All contractor employes who perform any official inspection functions shall have a license issued by the contractor. No person may either receive a license or have a license renewed as an inspector unless the person demonstrates to the department, by training and examination, proficiency in all of the following:
 - 1. Air pollution causes and effects.
 - 2. Purpose, function and goals of the inspection program.
 - 3. State inspection regulations.
 - 4. Test procedures and rationale for their design.
 - 5. Emission control devices, configuration and inspection.
 - Test equipment operation, calibration and maintenance.
 - 7. Quality control procedures.
 - 8. Public relations.
 - 9. Safety and health issues related to the inspection process.
- (b) Trainces shall both pass, by a minimum of 80% correct responses, a written test and demonstrate the ability, without the assistance of another person, to conduct a proper inspection as a condition of successfully completing a licensing examination administered by a party other than the contractor.
- (c) An applicant for a vehicle emissions inspection license who fails an examination for inspector shall successfully complete the applicable vehicle emissions inspector training program prior to reexamination for license.
- (2) LICENSING. Upon completion of training and all other licensing requirements, the contractor shall issue a photo identification badge containing the inspector's photograph, name, unique, non-transferable inspector number and the expiration date of the inspector's license. Training and licensing records for each employe so licensed shall be maintained both at the contrac-

tor's headquarters and at the employe's primary inspection station.

- (3) RENEWAL. Licenses issued to vehicle emissions inspectors shall be valid for 2 years. Inspectors shall complete both refresher training and testing prior to license renewal.
- (4) AUDITING. Representatives of the department or its designated agent shall conduct both overt and covert, scheduled and unscheduled audits.
- (5) PENALTIES. (a) Failure of either the contractor or any of its employes to pass any portion of an overt or covert audit shall result in the imposition of a penalty. These penalties, established in the penalty schedule section of the contract, may require that the contractor either suspend or revoke inspector licenses or incur liquidated damages, or both.
- (b) Contractor employes who are removed from inspection duties through either suspension or revocation of their inspection license as a result of a department audit may appeal the contractor's suspension or revocation to the department's hearing officer. In the case of immediate suspension due to a department audit, a hearing shall occur within 14 calendar days of the department's receipt of a written request by the employe. Failure of the department to hold a hearing within 14 days when requested shall cause the suspension to lapse.
- (6) CHALLENGE MECHANISM. (a) A motorist who alleges that either an incorrect inspection occurred or that fraud or abuse influenced the results of the inspection may contest the results of that inspection by notifying the department immediately after the inspection, or as soon as possible after discovering the problem.
- (b) The department's quality assurance representative shall investigate the complaint. If the results of that investigation indicate that the inspection may have occurred incorrectly or that fraud or abuse may have influenced the results of the inspection, the department's quality assurance representative shall arrange for a reinspection at the technical assistance center at a time convenient to all parties.
- (c) Results of the technical assistance center inspection shall supersede the results of the contested station lane inspection.

History: Cr. Register, June, 1993, No. 450, eff. 7-1-93; r. and recr. Register, April, 1996, No. 484, eff. 5-1-96.

- Trans 131.14 Remote sensing. (1) GENERAL. The contractor shall use remote sensing to measure the in-use vehicle emissions in any county identified under s. 110.20 (5), Stats. Any nonexempt vehicle that has passed its last emission reinspection under s. Trans 131.03 (11), and fails the remote sensing test by exceeding the remote emission standards under sub. (4), shall have an enhanced emission inspection under s. 110.20 (9) (g), Stats. Penalty for failure to comply with this section consists of suspension of vehicle registration as set forth in s. 341.63 (1) (e), Stats. To reinstate vehicle registration, a fee prescribed by s. 341.36 (1), Stats., is required.
- (2) WHEN INSPECTION REQUIRED. (a) The owner or lessee of a nonexempt vehicle that fails the remote sensing test shall have an enhanced emission inspection within 45 days of notification of a remote sensing test failure.
- (b) Vehicles that fail the remote sensing test, but are scheduled to receive an emission inspection required under s. 110.20 (6), Stats., within 90 days of remote sensing test failure, or for which temporary exemptions will expire within 30 days of remote sensing test failure, shall receive notification of the remote sensing test failure but are exempt from the inspection requirements of s. 110.20 (9) (g), Stats.
- (c) Vehicles that have a valid emission inspection waiver at the time of remote sensing test failure are exempt from the inspection requirements of s. 110.20 (9) (g), Stats.
- (3) SCOPE AND NATURE OF TEST. The test shall consist of using an open—path infrared sensor to measure the concentration of one

or more of the following pollutants present in the vehicle's exhaust:

- (a) Hydrocarbons.
- (b) Carbon monoxide.
- (c) Carbon dioxide.
- (d) Oxides of nitrogen.
- (4) EMISSION STANDARDS. Vehicles that exceed the standards shown in Table 1 shall fail the remote sensing test:

TABLE 1

MODEL YEAR	GVWR	REMOTE SENSING STANDARD				
		HC(ppm)	CO(%)	NO _x (%)		
1992 and newer	All	400	2.0	Reserved		
1988 1991	All	450	3.0	Reserved		
1981 – 1987	All	. 650	5.0	Reserved		
1975 – 1980	All	1300	7.0	Reserved		
1968 – 1974	All	1700	8.0	Reserved		

Note: Changes to these standards may occur either if the USEPA establishes remote sensing standards or if the department's program evaluation indicates that modifications should occur to identify more accurately gross polluting vehicles.

- (5) VEHICLE INSPECTION NOTICE. The contractor shall mail a vehicle inspection notice to the owner or lessee of vehicles that fail a remote sensing test conducted under this section. The vehicle inspection notice shall be mailed to the owner's or lessee's address indicated on the department's registration database. The vehicle inspection notice shall include all of the following:
 - (a) Test serial number,
 - (b) Date, location and time of the test.
 - (c) License plate number.
 - (d) VIN.
 - (e) Emission test results and standards for the vehicle.
- (f) Instructions indicating that the report, together with the vehicle, shall be brought to any inspection station to receive an inspection as required under s. Trans 131.14 (2), if required.
 - (g) Information describing the remote sensing test.
- (h) Explanation of both the legal requirements and registration penalties for failure to comply with an inspection notice.
- (i) Other information that the department may decide to include to improve understanding of the remote sensing test.
- (6) REMOTE SENSING EQUIPMENT SPECIFICATIONS AND MAINTENANCE. (a) All equipment utilized for remote sensing emission measurement shall be calibrated and maintained according to the manufacturer's specifications or as superseded by contract.
- (b) Remote sensing equipment, personnel and procedures shall be subject to periodic audits by the department under s. Trans 131.11.

History: Cr. Register, June, 1993, No. 450, eff. 7–1–93; r. and recr. Register, April, 1996, No. 484, eff. 5–1–96.

Trans 131.15 Performance monitoring of repair facilities. (1) GENERAL. The department, through its emission testing contractor, shall both collect emission repair data and inform the public and automotive repair industry regarding repair efficacy.

(2) DATA COLLECTION. Whenever a nonexempt vehicle receives a reinspection, the contractor shall collect the following emission repair information from the vehicle inspection report as required by s. Trans 131.03 (11):

- (a) The repairs performed.
- (b) Any technician recommended repairs not performed, per owner's request.
- (c) The name and address of the facility that performed the repairs.
 - (d) The name of the person who performed the repairs.
- (e) The identification number, if available, of the recognized repair facility or recognized automotive emission repair technician, or both.
- (3) REPORTING. (a) The contractor shall compile a report which includes the emission repair facility name, address, telephone number, number of vehicles submitted for reinspection, and percentages indicating the number of vehicles that have passed, failed, and received waivers after repair.
- (b) Beginning in the third month of the vehicle emission inspection program, the contractor shall produce a summary report of the performance of local repair facilities that have repaired vehicles for reinspection. The report shall be provided to the motorist at the time of initial vehicle emission inspection failure. The report shall be updated on a quarterly basis.
- (c) Repair facilities shall receive summary reports at least quarterly. Reports to the repair facility shall include all information made available to the public and may include reports on individual technicians if so requested by the employing repair facility.
- (d) The department may include additional statistics that convey information on the relative ability of repair facilities in providing effective emission repair.

History: Emerg. cr., eff. 12-4-95; cr. Register, April, 1996, No. 484, eff. 5-1-96.

- Trans 131.16 Automotive emission repair technician training. (1) General. The department, in cooperation with community and technical colleges located in counties certified under s. 110.20 (5) (a), Stats., shall establish guidelines for assessing programs for automotive emission repair technician education and training available at both public and private facilities. The department shall designate programs that meet these guidelines as Wisconsin emission technician training, or WISE-TECH, programs. Any public or private facility offering automotive emission repair technician training may request WISETECH designation from the department.
- (2) CRITERIA. To meet WISETECH standards, training courses shall, at a minimum, include instruction in:
- (a) Diagnosis and repair of malfunctions in computer controlled close-loop vehicles.
- (b) Application of emission control theory and diagnostic data to the diagnosis and repair of vehicles failing the transient emission test and the evaporative system functional checks.
- (c) Utilization of diagnostic information on systematic or repeated failures observed in both the transient emission test and the evaporative system functional checks.
- (d) General training on the various subsystems related to engine emission control.

- (3) EQUIPMENT. Both private and public facilities offering WISETECH designated automotive emission repair training courses shall have available, and maintain in good working condition, tools and equipment necessary for the proper diagnosis, adjustment and repair of all nonexempt vehicles. All equipment utilized in the training courses shall be calibrated and maintained according to the manufacturer's specifications.
- (4) PROGRAM RECOGNITION. Programs shall be designated as meeting WISETECH standards if in compliance with one of the following:
- (a) The department approves the course curricula, equipment and facility.
- (b) The training facility presents documentation that the course meets National Automotive Technician Education Foundation, Inc., standards.
- (5) TECHNICIAN RECOGNITION. (a) A person successfully completing all phases of a WISETECH training program shall achieve the designation of "recognized automotive emission repair technician" as defined in s. Trans 131.02 (38).
- (b) A person who satisfactorily completes a WISETECH approved automotive emission training course shall receive from the organization providing the training, an identification card which states the technician's name, the name and location of the course, the date of completion and a WISETECH identification number.
- (6) REPORTING. Both private and public facilities offering WISETECH automotive emission repair training courses shall supply the department with the names of the persons registered in their course, the percentage successfully passing the course and the names and WISETECH identification numbers of those passing.
- (7) SUPPLEMENTAL TRAINING. The department may authorize periodic supplemental training as a requirement for a person to maintain the status of WISETECH automotive emission repair technician.
- (8) QUALITY ASSURANCE. (a) WISETECH training programs are subject to periodic monitoring by the department or its representative to assure that courses continue to meet WISETECH standards.
- (b) The department may use performance monitoring as described in s. Trans 131.15 to evaluate both the emission repair success of the technicians and the effectiveness of WISETECH designated courses.

History: Emerg. cr., eff. 12-4-95; cr. Register, April, 1996, No. 484, eff. 5-1-96.

Trans 131.17 Notification of inspection requirements. As part of the notification process for vehicle registration renewal under s. 341.08 (4m), Stats., or for inspection required due to ownership change registration under s. 110.20 (6) (a) 2., Stats., or for inspection required due to registration as a collector or hobbyist vehicle, the department shall include notification to vehicle owners whose vehicles either are or may be subject to the inspection requirements of this chapter.

History: Cr. Register, June, 1993, No. 450, eff. 7-1-93; emerg. renum. and am., eff. 12-4-95; renum. from Trans 131.15, Register, April, 1996, No. 484, eff. 5-1-96.

TABLE 2

Time sec. Speed mph Time sec. Speed mph Spee	TABLE 2									
1 0 49 26.1 97 0 145 24.6 193 54.8 2 0 50 26.7 98 3.3 146 25.1 194 55.1 3 0 51 27.5 99 6.6 147 25.6 195 55.7 4 0 52 28.6 100 9.9 148 25.7 196 55.7 5 3 53 29.3 101 13.2 149 25.4 197 56.1 6 5.9 54 29.8 102 16.5 150 24.9 109 56.3 7 8.6 55 30.4 104 22.2 152 25.4 200 56.7 9 14.3 57 30.7 105 24.3 153 26 201 56.7 10 16.9 58 30.7 106 25.8 154 26 202 25.6	Time sec.	Speed mph								
2 0 50 26.7 98 3.3 146 25.1 194 55.1 3 0 51 27.5 99 6.6 147 25.6 195 55.5 4 0 52 28.6 100 9.9 148 23.7 196 55.7 5 3 53 29.3 101 13.2 149 25.4 197 56.1 6 5.9 54 29.8 102 16.5 150 24.9 109 56.3 7 8.6 55 30.1 103 19.8 151 25 199 56.6 8 11.5 56 30.4 104 22.2 152 25.4 200 56.7 9 14.3 57 30.7 106 25.8 154 26 202 56.3 11 17.3 30 30.5 107 26.4 155 25.7 203 56	0*	0	48	25.7	96	0	144	24.6	192	54.6
3 0 51 27.5 99 6.6 147 25.6 195 55.7 4 0 52 28.6 100 9.9 148 25.7 196 55.7 5 3 53 29.3 101 13.2 149 25.4 197 56.1 6 5.9 54 29.8 102 16.5 150 24.9 109 56.6 7 8.6 55 30.1 103 19.8 151 25 199 56.6 8 11.5 56 30.4 104 22.2 152 25.4 200 56.7 9 14.3 57 30.7 106 25.8 154 26 202 56.3 11 17.3 59 30.5 107 26.4 155 25.7 203 56.3 12 18.1 20.7 61 30.3 109 25.1 157 26.7	1	0	49	26.1	97	0	145	24.6	193	54.8
4 0 52 28.6 100 9.9 148 25.7 196 55.7 5 3 53 29.3 101 13.2 149 25.4 197 56.1 6 5.9 54 29.8 102 16.5 150 24.9 109 36.3 7 8.6 55 30.1 103 19.8 151 25 199 36.6 8 11.5 56 30.4 104 22.2 152 25.4 200 56.7 9 14.3 57 30.7 105 24.3 153 26 201 56.7 10 16.9 58 30.7 106 25.8 154 26 202 36.3 56.7 11 17.3 20.7 61 30.3 109 25.1 157 26.1 204 55 12 18.1 60 30.4 110 24.7 158 <t< td=""><td>2</td><td>0</td><td>50</td><td></td><td>98</td><td>3.3</td><td>146</td><td>25.1</td><td>194</td><td>55.1</td></t<>	2	0	50		98	3.3	146	25.1	194	55.1
5 3 53 29.3 101 13.2 149 25.4 197 56.3 6 5.9 54 29.8 102 16.5 150 24.9 109 56.3 7 8.6 55 30.1 103 19.8 151 25 199 36.6 8 11.5 56 30.4 104 22.2 152 25.4 200 36.7 10 16.9 58 30.7 106 25.8 154 26 202 56.3 11 17.3 59 30.5 107 26.4 155 25.7 203 56 12 18.1 60 30.4 108 25.7 156 26.1 204 55 13 20.7 61 30.3 109 25.1 157 26.7 205 53.4 14 21.7 62 30.4 110 24.7 158 27.3 206		0	51	27.5	99	6.6	147	25.6	195	55,5
6 5.9 54 29.8 102 16.5 150 24.9 109 56.3 7 8.6 55 30.1 103 19.8 151 25 199 56.6 8 11.5 56 30.4 104 22.2 152 25.4 200 56.7 9 14.3 57 30.7 106 25.8 154 26 201 56.7 10 16.9 58 30.7 106 25.8 154 26 202 56.3 11 17.3 59 30.5 107 26.4 155 25.7 203 56 12 18.1 60 30.4 108 25.7 156 26.1 204 55 13 20.7 61 30.3 109 25.1 157 26.1 204 55 14 21.7 62 30.4 110 24.7 158 27.3 206	4	0	52	28,6	100	9.9	148	25.7	196	55.7
7 8.6 55 30.1 103 19.8 151 25 199 56.6 8 11.5 56 30.4 104 22.2 152 25.4 200 56.7 10 16.9 58 30.7 106 25.8 154 26 202 56.3 11 17.3 59 30.5 107 26.4 155 25.7 203 56 12 18.1 60 30.4 108 25.7 156 26.1 204 55 13 20.7 61 30.3 109 25.1 157 26.7 205 53.4 14 21.7 62 30.4 110 24.7 158 27.3 206 51.6 15 22.4 63 30.8 111 25.2 159 30.5 207 51.8 16 22.5 64 30.4 112 25.4 160 33.5 208	5	3	53	29.3	101	13.2	149	25.4	197	56,1
8 11.5 56 30.4 104 22.2 152 25.4 200 56.7 9 14.3 57 30.7 105 24.3 153 26 201 56.7 10 16.9 58 30.7 106 25.8 154 26 202 56.3 11 17.3 59 30.5 107 26.4 155 25.7 203 56 12 18.1 60 30.4 108 25.7 156 26.1 204 55 13 20.7 61 30.3 109 25.1 157 26.6 204 45 14 21.7 62 30.4 110 24.7 158 27.3 206 51.6 15 22.4 63 30.8 111 25.2 159 30.5 207 51.8 16 22.5 64 30.4 112 25.4 160 33.5 208	6	5.9	54	29.8	102	16.5	150	24.9	109	56,3
9 14.3 57 30.7 105 24.3 153 26 201 56.7 10 16.9 58 30.7 106 25.8 154 26 202 56.3 11 17.3 59 30.5 107 26.4 155 25.7 203 56 12 18.1 60 30.4 108 25.7 156 26.1 204 55 13 20.7 61 30.3 109 25.1 157 26.7 205 53.4 14 21.7 62 30.4 110 24.7 158 27.3 206 51.6 15 22.4 63 30.8 111 25.2 159 30.5 207 51.8 16 22.5 64 30.4 112 25.4 160 33.5 207 51.8 16 22.5 64 30.4 112 25.4 160 33.5 208 52.1 17 22.1 65 29.9 113 27.2 161 36.2 209 52.5 18 21.5 66 29.5 114 26.5 162 37.3 210 53 19 20.9 67 29.8 115 24 163 39.3 211 53.5 20 20.4 68 30.3 116 22.7 164 40.5 212 54 22 19.8 69 30.7 117 19.4 165 42.1 213 54.9 21 19.8 69 30.7 117 19.4 165 42.1 213 54.9 22 17 70 30.9 118 17.7 166 43.5 214 55.4 23 14.9 71 31 119 17.2 167 45.1 215 55.6 24 14.9 72 30.9 120 18.1 168 46 216 56 25 15.2 73 30.4 121 18.6 169 46.8 217 56 25 15.2 73 30.4 121 18.6 169 46.8 217 56 28 17.1 76 30.2 124 21.7 77 30.7 125 22.4 173 47.2 221 53.6 28 17.1 76 30.2 124 21.7 79 30.7 125 22.4 173 47.2 221 53.6 29 19.1 77 30.7 125 22.4 173 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 33 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 33 30 21.1 78 31.2 126 22.5 174 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 33 30 21.1 78 31.2 126 22.5 174 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 33 30 21.1 78 31.2 126 22.5 174 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 33 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 33 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 33 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 33 30 21.1 78 31.2 126 22.5 174 47.4 22.3 220 54.5 33 22.7 81 32.4 129 20.9 177 48.5 22.2 32.5 34 33 31.7 131 19.8 17.7 180 50 228 37.5 37.5 37.5 39 15.8 87 18.1 135 15.8 183 51.5 22.2 23 24 50.5 33 15.8 86 21.6 134 15.8 183 51.5 22.2 232 233 20 42 21.6 90 7.6 138 21.6 186 54.1 234 16.5 44.5 24.2 24.2 24.2 24.2 24.6 90 7.6 138 21.6 186 54.1 234 16.5 44.5 24.2 24.2 24.2 24.6 90 7.6 138 21.6 186 54.1 234 16.5 44.5 24.2 24.2 24.6 90 7.6 138 21.6 186 54.1 234 16.5 54.5 24.6 93 0 141 24.7 189 55 236 238 25.5 24.6 24.9 94 0 144 24.2 24.8 190 54.9 54.9 238	7	8.6	55	30.1	103	19.8	151	25	199	56.6
10	8	11.5	56	30.4	104	22,2	152	25.4	200	56.7
11 17.3 59 30.5 107 26.4 155 25.7 203 56 12 18.1 60 30.4 108 25.7 156 26.1 204 55 13 20.7 61 30.3 109 25.1 157 26.7 205 53.4 14 21.7 62 30.4 110 24.7 158 27.3 206 51.6 15 22.4 63 30.8 111 25.2 159 30.5 207 51.8 16 22.5 64 30.4 112 25.4 160 33.5 208 52.1 17 22.1 65 29.9 113 27.2 161 36.2 209 52.5 18 21.5 66 29.5 114 26.5 162 37.3 210 53 19 20.9 67 29.8 115 24 163 39.3 211 </td <td>9</td> <td>14.3</td> <td>57</td> <td>30.7</td> <td>105</td> <td>24.3</td> <td>153</td> <td>26</td> <td>201</td> <td>56.7</td>	9	14.3	57	30.7	105	24.3	153	26	201	56.7
11 17.3 59 30.5 107 26.4 155 25.7 203 56 12 18.1 60 30.4 108 25.7 156 26.7 205 53.4 14 21.7 62 30.4 110 24.7 158 27.3 206 51.6 15 22.4 63 30.8 111 25.2 159 30.5 207 51.8 16 22.5 64 30.4 112 25.4 160 33.5 208 52.1 17 22.1 65 29.9 113 27.2 161 36.2 209 52.5 18 21.5 66 29.5 114 26.5 162 37.3 210 53 19 20.9 67 29.8 115 24 163 39.3 211 53.5 20 20.4 68 30.3 116 22.7 164 40.5 212	10	16.9	58	30.7	106	25.8	154	26	202	56,3
12 18.1 60 30.4 108 25.7 156 26.1 204 55 13 20.7 61 30.3 109 25.1 157 26.7 205 53.4 14 21.7 62 30.4 110 24.7 158 27.3 206 51.6 15 22.4 63 30.8 111 25.2 159 30.5 207 51.8 16 22.5 64 30.4 112 25.4 160 33.5 208 52.1 17 22.1 65 29.5 114 26.5 162 37.3 210 53 19 20.9 67 29.8 115 24 163 39.3 211 53.5 20 20.9 67 29.8 115 24 163 39.3 211 53.5 21 19.8 69 30.7 117 19.4 165 42.1 213 </td <td>11</td> <td></td> <td>59</td> <td>30.5</td> <td>107</td> <td>26.4</td> <td>155</td> <td>25.7</td> <td>203</td> <td>56</td>	11		59	30.5	107	26.4	155	25.7	203	56
13 20.7 61 30.3 1,09 25.1 157 26.7 205 53.4 14 21.7 62 30.4 110 24.7 158 27.3 206 51.6 15 22.4 63 30.8 111 25.2 159 30.5 207 51.8 16 22.5 64 30.4 112 25.4 160 33.5 208 52.1 17 22.1 65 29.9 113 27.2 161 36.2 209 52.5 18 21.5 66 29.5 114 26.5 162 37.3 210 53 19 20.9 67 29.8 115 24 163 39.3 211 53.5 20 20.4 68 30.3 116 22.7 164 40.5 212 54.9 21 19.8 69 30.7 117 19.4 165 42.1	12		60	30.4	108	25.7	156	26.1	204	55
14 21.7 62 30.4 110 24.7 158 27.3 206 51.6 15 22.4 63 30.8 111 25.2 159 30.5 207 51.8 16 22.5 64 30.4 112 25.4 160 33.5 208 52.1 17 22.1 65 29.9 113 27.2 161 36.2 209 52.5 18 21.5 66 29.5 114 26.5 162 37.3 210 53 19 20.9 67 29.8 115 24 163 39.3 211 53.5 20 20.4 68 30.3 116 22.7 164 40.5 212 54 21 19.8 69 30.7 117 19.4 165 42.1 213 54.9 22 17 70 30.9 118.1 166 43.5 214 55.4	13	20.7	61	30.3	109	25.1	157	26.7	205	53.4
15 22.4 63 30.8 111 25.2 159 30.5 207 51.8 16 22.5 64 30.4 112 25.4 160 33.5 208 52.1 17 22.1 65 29.9 113 27.2 161 36.2 209 52.5 18 21.5 66 29.5 114 26.5 162 37.3 210 53 19 20.9 67 29.8 115 24 163 39.3 211 53.5 20 20.4 68 30.3 116 22.7 164 40.5 212 54 21 19.8 69 30.7 117 19.4 165 42.1 213 54.9 21 19.8 69 30.7 117 19.4 165 42.1 213 55.4 21 19.9 12.1 18.6 169 43.5 214 55.4	14		62	30.4	110	24.7	158	27.3	206	51.6
16 22.5 64 30.4 112 25.4 160 33.5 208 52.1 17 22.1 65 29.9 113 27.2 161 36.2 209 52.5 18 21.5 66 29.5 114 26.5 162 37.3 210 53 19 20.9 67 29.8 115 24 163 39.3 211 53.5 20 20.4 68 30.3 116 22.7 164 40.5 212 54 21 19.8 69 30.7 117 19.4 165 42.1 213 54.9 21 19.8 69 30.7 117 19.4 165 42.1 213 54.9 22 17 70 30.9 120 18.1 166 43.5 214 55.4 23 14.9 71 31 119 17.2 167 45.1 215 <td></td> <td></td> <td>63</td> <td></td> <td>4</td> <td></td> <td>159</td> <td>30.5</td> <td>207</td> <td>51.8</td>			63		4		159	30.5	207	51.8
17 22.1 65 29.9 113 27.2 161 36.2 209 52.5 18 21.5 66 29.5 114 26.5 162 37.3 210 53 19 20.9 67 29.8 115 24 163 39.3 211 53.5 20 20.4 68 30.3 116 22.7 164 40.5 212 54 21 19.8 69 30.7 117 19.4 165 42.1 213 54.9 21 17 70 30.9 118 17,7 166 43.5 214 55.4 23 14.9 71 31 119 17.2 167 45.1 215 55.6 24 14.9 72 30.9 120 18.1 168 46 216 56 25 15.2 73 30.4 121 18.6 169 46.8 217			64	30.4	112		160	33.5	208	52.1
18 21.5 66 29.5 114 26.5 162 37.3 210 53 19 20.9 67 29.8 115 24 163 39.3 211 53.5 20 20.4 68 30.7 117 19.4 165 42.1 212 54 21 19.8 69 30.7 117 19.4 165 42.1 213 54.9 22 17 70 30.9 118 17,7 166 43.5 214 55.4 23 14.9 71 31 119 17.2 167 45.1 215 55.6 24 14.9 72 30.9 120 18.1 168 46 216 56 25 15.2 73 30.4 121 18.6 169 46.8 217 56 26 15.5 74 29.8 122 20 170 47.5 218					1		1		209	52.5
19 20.9 67 29.8 115 24 163 39.3 211 53.5 20 20.4 68 30.3 116 22.7 164 40.5 212 54 21 19.8 69 30.7 117 19.4 165 42.1 213 54.9 22 17 70 30.9 118 17.7 166 43.5 214 55.4 23 14.9 71 31 119 17.2 167 45.1 215 55.6 24 14.9 72 30.9 120 18.1 168 46 216 56 25 15.2 73 30.4 121 18.6 169 46.8 217 56 26 15.5 74 29.8 122 20 170 47.5 218 55.8 27 16 75 29.9 123 20.7 171 47.5 219					1			37.3	210	53
20 20.4 68 30.3 116 22.7 164 40.5 212 54 21 19.8 69 30.7 117 19.4 165 42.1 213 54.9 22 17 70 30.9 118 17.7 166 43.5 214 55.4 23 14.9 71 31 119 17.2 167 45.1 215 55.6 24 14.9 72 30.9 120 18.1 168 46 216 56 25 15.2 73 30.4 121 18.6 169 46.8 217 56 26 15.5 74 29.8 122 20 170 47.5 218 55.8 27 16 75 29.9 123 20.7 171 47.5 219 55.2 28 17.1 76 30.2 124 21.7 172 47.3 220								39.3	211	53.5
21 19.8 69 30.7 117 19.4 165 42.1 213 54.9 22 17 70 30.9 118 17.7 166 43.5 214 55.4 23 14.9 71 31 119 17.2 167 45.1 215 55.6 24 14.9 72 30.9 120 18.1 168 46 216 56 25 15.2 73 30.4 121 18.6 169 46.8 217 56 26 15.5 74 29.8 122 20 170 47.5 218 55.8 27 16 75 29.9 123 20.7 171 47.5 219 55.2 28 17.1 76 30.2 124 21.7 172 47.3 220 54.5 30 21.1 78 31.2 126 22.5 174 47.2 221 53.6 31 22.7 79 31.8 127 22.1 175 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>164</td> <td>40.5</td> <td>212</td> <td>54</td>							164	40.5	212	54
22 17 70 30.9 118 17,7 166 43.5 214 55.4 23 14.9 71 31 119 17.2 167 45.1 215 55.6 24 14.9 72 30.9 120 18.1 168 46 216 56 25 15.2 73 30.4 121 18.6 169 46.8 217 56 26 15.5 74 29.8 122 20 170 47.5 218 55.8 27 16 75 29.9 123 20.7 171 47.5 219 55.2 28 17.1 76 30.2 124 21.7 172 47.3 220 54.5 29 19.1 77 30.7 125 22.4 173 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222							I	42.1	213	54.9
23 14.9 71 31 119 17.2 167 45.1 215 55.6 24 14.9 72 30.9 120 18.1 168 46 216 56 25 15.2 73 30.4 121 18.6 169 46.8 217 56 26 15.5 74 29.8 122 20 170 47.5 218 55.8 27 16 75 29.9 123 20.7 171 47.5 219 55.2 28 17.1 76 30.2 124 21.7 172 47.3 220 54.5 29 19.1 77 30.7 125 22.4 173 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 31 22.7 79 31.8 127 22.1 175 47.4 223			1		B .			43.5	214	55.4
24 14.9 72 30.9 120 18.1 168 46 216 56 25 15.2 73 30.4 121 18.6 169 46.8 217 56 26 15.5 74 29.8 122 20 170 47.5 218 55.8 27 16 75 29.9 123 20.7 171 47.5 219 55.2 28 17.1 76 30.2 124 21.7 172 47.3 220 54.5 29 19.1 77 30.7 125 22.4 173 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 31 22,7 79 31.8 127 22.1 175 47.4 223 51.5 32 22,9 80 32.2 128 21.5 176 47.9 224 50.5 33 22.7 81 32.4 129 20.9 17				31			167	45.1	215	55.6
25 15.2 73 30.4 121 18.6 169 46.8 217 56 26 15.5 74 29.8 122 20 170 47.5 218 55.8 27 16 75 29.9 123 20.7 171 47.5 219 55.2 28 17.1 76 30.2 124 21.7 172 47.3 220 54.5 29 19.1 77 30.7 125 22.4 173 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 31 22.7 79 31.8 127 22.1 175 47.4 223 51.5 32 22.9 80 32.2 128 21.5 176 47.9 224 50.5 33 22.7 81 32.4 129 20.9 177 48.5 225					1		168		216	56
26 15.5 74 29.8 122 20 170 47.5 218 55.8 27 16 75 29.9 123 20.7 171 47.5 219 55.2 28 17.1 76 30.2 124 21.7 172 47.3 220 54.5 29 19.1 77 30.7 125 22.4 173 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 31 22.7 79 31.8 127 22.1 175 47.4 223 51.5 32 22.9 80 32.2 128 21.5 176 47.9 224 50.5 33 22.7 81 32.4 129 20.9 177 48.5 225 48 34 22.6 82 32.2 130 20.4 178 49.1 226					1			46.8	217	56
27 16 75 29.9 123 20.7 171 47.5 219 55.2 28 17.1 76 30.2 124 21.7 172 47.3 220 54.5 29 19.1 77 30.7 125 22.4 173 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 31 22,7 79 31.8 127 22.1 175 47.4 223 51.5 32 22.9 80 32.2 128 21.5 176 47.9 224 50.5 33 22.7 81 32.4 129 20.9 177 48.5 225 48 34 22.6 82 32.2 130 20.4 178 49.1 226 44.5 35 21.3 83 31.7 131 19.8 179 49.5 2					122		170	47.5	218	55.8
28 17.1 76 30.2 124 21.7 172 47.3 220 54.5 29 19.1 77 30.7 125 22.4 173 47.2 221 53.6 30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 31 22,7 79 31.8 127 22.1 175 47.4 223 51.5 32 22.9 80 32.2 128 21.5 176 47.9 224 50.5 33 22.7 81 32.4 129 20.9 177 48.5 225 48 34 22.6 82 32.2 130 20.4 178 49.1 226 44.5 35 21.3 83 31.7 131 19.8 179 49.5 227 41 36 19 84 28.6 132 17 180 50 228 37.5 37 17.1 85 25.1 133 17.1 181 50.6 229 34 38 15.8 86 21.6 134 15.8 182 51 230 30.5 <td></td> <td></td> <td>75</td> <td>. 29.9</td> <td>123</td> <td>20.7</td> <td>171</td> <td>47.5</td> <td>219</td> <td>55,2</td>			75	. 29.9	123	20.7	171	47.5	219	55,2
30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 31 22,7 79 31.8 127 22.1 175 47.4 223 51.5 32 22,9 80 32.2 128 21.5 176 47.9 224 50.5 33 22.7 81 32.4 129 20.9 177 48.5 225 48 34 22.6 82 32.2 130 20.4 178 49.1 226 44.5 35 21.3 83 31.7 131 19.8 179 49.5 227 41 36 19 84 28.6 132 17 180 50 228 37.5 37 17.1 85 25.1 133 17.1 181 50.6 229 34 38 15.8 86 21.6 134 15.8 182 51 230			76	30.2	124	21.7	172	47.3	220	54,5
30 21.1 78 31.2 126 22.5 174 47.2 222 52.5 31 22,7 79 31.8 127 22.1 175 47.4 223 51.5 32 22,9 80 32.2 128 21.5 176 47.9 224 50.5 33 22.7 81 32.4 129 20.9 177 48.5 225 48 34 22.6 82 32.2 130 20.4 178 49.1 226 44.5 35 21.3 83 31.7 131 19.8 179 49.5 227 41 36 19 84 28.6 132 17 180 50 228 37.5 37 17.1 85 25.1 133 17.1 181 50.6 229 34 38 15.8 86 21.6 134 15.8 182 51 230	29	19.1	77	30.7	125	22.4	173	47.2	221	53.6
31 22,7 79 31.8 127 22.1 175 47.4 223 51.5 32 22.9 80 32.2 128 21.5 176 47.9 224 50.5 33 22.7 81 32.4 129 20.9 177 48.5 225 48 34 22.6 82 32.2 130 20.4 178 49.1 226 44.5 35 21.3 83 31.7 131 19.8 179 49.5 227 41 36 19 84 28.6 132 17 180 50 228 37.5 37 17.1 85 25.1 133 17.1 181 50.6 229 34 38 15.8 86 21.6 134 15.8 182 51 230 30.5 39 15.8 87 18.1 135 15.8 183 51.5 231 27 40 17.7 88 14.6 136 17.7 184 52.2 232 23.5 41 19.8 89 11.1 137 19.8 185 53.2 233 20			78	31.2	126		174	47.2	222	52.5
32 22.9 80 32.2 128 21.5 176 47.9 224 50.5 33 22.7 81 32.4 129 20.9 177 48.5 225 48 34 22.6 82 32.2 130 20.4 178 49.1 226 44.5 35 21.3 83 31.7 131 19.8 179 49.5 227 41 36 19 84 28.6 132 17 180 50 228 37.5 37 17.1 85 25.1 133 17.1 181 50.6 229 34 38 15.8 86 21.6 134 15.8 182 51 230 30.5 39 15.8 87 18.1 135 15.8 183 51.5 231 27 40 17.7 88 14.6 136 17.7 184 52.2 232	31		79		127		175	47.4	223	51,5
34 22.6 82 32.2 130 20.4 178 49.1 226 44.5 35 21.3 83 31.7 131 19.8 179 49.5 227 41 36 19 84 28.6 132 17 180 50 228 37.5 37 17.1 85 25.1 133 17.1 181 50.6 229 34 38 15.8 86 21.6 134 15.8 182 51 230 30.5 39 15.8 87 18.1 135 15.8 183 51.5 231 27 40 17.7 88 14.6 136 17.7 184 52.2 232 23.5 41 19.8 89 11.1 137 19.8 185 53.2 233 20 42 21.6 90 7.6 138 21.6 186 54.1 234	32		80		128		176	47.9	224	50.5
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35 21.3 83 31.7 131 19.8 179 49.5 227 41 36 19 84 28.6 132 17 180 50 228 37.5 37 17.1 85 25.1 133 17.1 181 50.6 229 34 38 15.8 86 21.6 134 15.8 182 51 230 30.5 39 15.8 87 18.1 135 15.8 183 51.5 231 27 40 17.7 88 14.6 136 17.7 184 52.2 232 23.5 41 19.8 89 11.1 137 19.8 185 53.2 233 20 42 21.6 90 7.6 138 21.6 186 54.1 234 16.5 43 23.2 91 4.1 139 22.2 187 54.6 235	34	22.6	82	32.2	130	20.4	178	49.1	226	44.5
36 19 84 28.6 132 17 180 50 228 37.5 37 17.1 85 25.1 133 17.1 181 50.6 229 34 38 15.8 86 21.6 134 15.8 182 51 230 30.5 39 15.8 87 18.1 135 15.8 183 51.5 231 27 40 17.7 88 14.6 136 17.7 184 52.2 232 23.5 41 19.8 89 11.1 137 19.8 185 53.2 233 20 42 21.6 90 7.6 138 21.6 186 54.1 234 16.5 43 23.2 91 4.1 139 22.2 187 54.6 235 13 44 24.2 92 0.6 140 24.5 188 54.9 236	35	21.3	83	31.7	131	19.8	179	49.5	227	41
38 15.8 86 21.6 134 15.8 182 51 230 30.5 39 15.8 87 18.1 135 15.8 183 51.5 231 27 40 17.7 88 14.6 136 17.7 184 52.2 232 23.5 41 19.8 89 11.1 137 19.8 185 53.2 233 20 42 21.6 90 7.6 138 21.6 186 54.1 234 16.5 43 23.2 91 4.1 139 22.2 187 54.6 235 13 44 24.2 92 0.6 140 24.5 188 54.9 236 9.5 45 24.6 93 0 141 24.7 189 55 237 6 46 24.9 94 0 142 24.8 190 54.9 238 <td< td=""><td>36</td><td></td><td>84</td><td>28.6</td><td>132</td><td>17</td><td>180</td><td>50</td><td>228</td><td>37.5</td></td<>	36		84	28.6	132	17	180	50	228	37.5
38 15.8 86 21.6 134 15.8 182 51 230 30.5 39 15.8 87 18.1 135 15.8 183 51.5 231 27 40 17.7 88 14.6 136 17.7 184 52.2 232 23.5 41 19.8 89 11.1 137 19.8 185 53.2 233 20 42 21.6 90 7.6 138 21.6 186 54.1 234 16.5 43 23.2 91 4.1 139 22.2 187 54.6 235 13 44 24.2 92 0.6 140 24.5 188 54.9 236 9.5 45 24.6 93 0 141 24.7 189 55 237 6 46 24.9 94 0 142 24.8 190 54.9 238 <td< td=""><td>37</td><td>17.1</td><td>85</td><td>25.1</td><td>133</td><td>17.1</td><td>181</td><td>50.6</td><td>229</td><td>34</td></td<>	37	17.1	85	25.1	133	17.1	181	50.6	229	34
40 17.7 88 14.6 136 17.7 184 52.2 232 23.5 41 19.8 89 11.1 137 19.8 185 53.2 233 20 42 21.6 90 7.6 138 21.6 186 54.1 234 16.5 43 23.2 91 4.1 139 22.2 187 54.6 235 13 44 24.2 92 0.6 140 24.5 188 54.9 236 9.5 45 24.6 93 0 141 24.7 189 55 237 6 46 24.9 94 0 142 24.8 190 54.9 238 2.5	38		86	21.6	134		182	51	230	30.5
40 17.7 88 14.6 136 17.7 184 52.2 232 23.5 41 19.8 89 11.1 137 19.8 185 53.2 233 20 42 21.6 90 7.6 138 21.6 186 54.1 234 16.5 43 23.2 91 4.1 139 22.2 187 54.6 235 13 44 24.2 92 0.6 140 24.5 188 54.9 236 9.5 45 24.6 93 0 141 24.7 189 55 237 6 46 24.9 94 0 142 24.8 190 54.9 238 2.5			87		135			51.5	231	27
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