



**Structure, Tower &
Antenna Council**
**Conseil des structures,
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National Safety Code (NSC) Standard 11 – Maintenance and Periodic Inspection Standards

(General Compliance & Best Practice Guidelines)



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(General Compliance & Best Practices Guidelines)

This document provides an overview of Canadian Council of Motor Transport Administrators (CCMTA) maintenance and periodic inspection standards. These general compliance guidelines are designed to instruct workers and companies in the transmission tower industry, and focus only on NSC regulations that are likely to affect crews in this industry.

NSC standards apply to all vehicles used for commercial activity that surpass the gross vehicle weight (GVW) threshold specified by the province(s) in which a vehicle is operated. This includes personal vehicles, such as pickup trucks, when used for commercial activities, including transporting persons or materials to or from a job site.

For more information about GVW thresholds in each province, please refer to Appendix 1 on page 8 of this document.

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Part A – Commercial Vehicle Maintenance Standard

Overview

The objective of NSC Standard 11 Part A is to ensure all companies operating commercial vehicles have a preventative maintenance program and that the requirements of that program are being met as per the standards put in place by the provincial transportation ministry. This has been put in place to make sure that all carriers/operators are conducting the proper Periodic Motor Vehicle Inspection (PMVI), thus making sure that all problems or defects can be addressed in a timely manner before an incident occurs or major repairs are necessary. Having an effective PMVI program in place will ensure that the operator will comply with the semi-annual and annual inspection requirements of the PMVI program.

This program was developed to provide guidelines for the minimum requirements for all vehicle components. Companies that develop their own PMVI can use this document as a reference to help them comply with jurisdictional regulations.

The standard applies to all commercial vehicles. A definition of a commercial vehicle as typically applied to the tower industry is: **“A truck, tractor or trailer or any combination that exceeds a registered gross vehicle weight of 4,500kg.”** Please note **this gross vehicle weight limit can differ by province**. Please review Appendix 1 in this document for commercial vehicle weight per province.

Numerous jurisdictions exempt specific types of vehicles from the requirements of this standard. Vehicles that are leased for more than 30 days or less, and a light truck with a gross vehicle weight of 4500kg or less, can be exempt from these rules in certain jurisdictions.

Inspection and Maintenance Cycles

All operators of commercial vehicles must ensure that all operated vehicles meet the requirements established in the maintenance standard. Every operator must have in place a working inspection, maintenance and repair program. This program must be carried out at certain intervals agreed upon within the company, as the standard does not provide a specific timeline. It should be noted that some jurisdictions do specify specific times and mileages between maintenance intervals. For more information about vehicle-specific maintenance requirements by province, please consult an authorized commercial vehicle maintenance facility.

Many companies operating commercial vehicles refer to their vehicles' original equipment manufacturer (OEM) instructions for information regarding minimum requirements for regular vehicle inspection and maintenance, and when inspections should occur. Different inspection cycles for maintenance and repair – called “A-Level,” B-Level” and C-Level” inspections – are usually based on combinations of elapsed time periods (hours of run-time) and kilometers travelled by the vehicle. These inspections may be carried out on a daily, weekly or monthly basis, or as per the kilometers driven as set out by the OEM.

A-Level Maintenance covers such safety components as lights, tires, body paneling and apparent leaks. A-level maintenance checks can be scheduled on a monthly basis or by kilometers travelled. These maintenance intervals are to be determined by the carrier, using the OEM instructions for reference.

When problems are detected, the vehicle must be taken to a licensed mechanic for repair. The mechanic should check/fix any problems that have been reported on the daily inspection. The mechanic should also look for other problems that have not been identified, such as leaks and signs of unusual wear on



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components. This will allow the shop to undertake immediate repair of critical components. If the problem is not serious it can be fixed at the time of the next regular inspection.

B-Level Maintenance covers everything in the A-level maintenance, as well as a series of other components or vehicle systems. Depending on the operation and use of the equipment, this will occur on a bimonthly or quarterly basis, or between 10,000-30,000km. Worn hoses, brackets and filters, for example, might be replaced during this period. Brakes should also be checked for adjustment and measured for wear. The engine should receive a tune-up and all fittings should be greased/lubricated per OEM or industry standards.

C-Level Maintenance covers the remaining vehicle systems and components identified in the standard and requires these components to be inspected and repaired or replaced as per the OEM requirements or industry standards. Some carriers will time their C-Level inspection to occur immediately prior to their semi-annual or annual PMVI inspection at a government approved facility.

The obligation to inspect and maintain vehicles is ongoing. This ongoing aspect of vehicle maintenance and inspection distinguishes this part of the standard from the PMVI standard, where a specific time interval for inspection is mandated.

Procedures for Compliance

Each operator must establish a system of preventative vehicle inspection, maintenance and repair for every truck or trailer. They must also keep an up-to-date maintenance and repair record for each vehicle under its control.

Each vehicle file must contain the following at a minimum:

- make, model, year and serial number (VIN);
- lessor's name (if applicable);
- the date and nature of repair and maintenance activity carried out on the equipment (including parts replaced and invoices);
- odometer reading at the time of every servicing or repair;
- description of the type and frequency of regular maintenance and repairs to be undertaken on equipment; and
- a record of every axle or suspension modification that affects the gross vehicle or axle weight rating.

This information must be assembled and kept current for each vehicle or piece of equipment and must be kept on file for at least two years.

Enforcement

The most significant difference between the maintenance standard and other inspection standards under the NSC is that there is no on-road enforcement of maintenance requirements. These requirements are enforced by jurisdictional transportation safety officials during the facility audit process outlined in NSC Standard 15. *(Editor's note: To be clear, this means the maintenance standard is enforced during audits, while the inspection standard is still enforced on-road.)*

The auditor will randomly select a number of vehicles in a fleet and then request that the corresponding vehicle files be provided for review. The auditor will check to see that the information is current and complete.



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Failure to have a regular maintenance and repair program and/or failure to keep vehicle records current will result in a violation being recorded on the operator's jurisdictional profile. This will impact the safety rating assigned to a vehicle operator. Failure to bring preventative maintenance programs into compliance with the standard and jurisdictional equipment regulations will result in further fines.

Maintenance Requirements

NSC Standard 11 provides details for commercial vehicle inspectors, which are of limited value to fleet operators, and which are not covered in this document as a result. Please consult a government-approved inspection facility if you require specific information about the following areas of maintenance requirements:

Power Train (NSC Standard 11A – Section 1)

Suspension (NSC Standard 11A – Section 2)

Hydraulic and Electric Brakes (NSC Standard 11A – Section 3H)

Air Brakes (NSC Standard 11A – Section 3A)

Steering (NSC Standard 11A – Section 4)

Instrument and Auxiliary Equipment (NSC Standard 11A – Section 5)

Lamps (NSC Standard 11A – Section 6)

Electrical Systems (NSC Standard 11A – Section 7)

Body and Chassis (NSC Standard 11A – Section 8)

Tires and Wheels (NSC Standard 11A – Section 9)

Coupling Devices (NSC Standard 11A – Section 10)

Part A Conclusion

A key point to remember from this standard is the requirement for a regular and systematic inspection and maintenance program that ensures only safe equipment is allowed on the road. The other NSC inspection standards can be viewed as the means by which the regular inspection and maintenance program is evaluated. Infractions related to the other standards may be an indication that the inspection and maintenance program is not adequate and may prompt a facility audit.



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Part B – Periodic Commercial Motor Vehicle Inspections (PMVI)

Introduction

Through consistent periodic inspection, PMVI standards have improved the safety on Canadian roadways by reducing collisions due to vehicle mechanical defects.

All commercial trucks, semi-trailers, trailers and combinations are required to be inspected to the PMVI standard at least annually. Inspections must be conducted by an authorized inspector in a government establishment or at an inspection facility approved by a government agency.

Editor's note: The vast majority of Standard 11 Part B provides information that relates to the responsibilities of inspectors/inspection stations, and is not applicable to carriers/operators. As such, the remainder of these guidelines will only cover information that is directly pertinent to carriers/operators.

Inspection Cycles by Jurisdiction

Please refer to the table in Appendix 2 for NSC inspection cycle requirements in each province and territory, as outlined in NSC Standard 11 Part B.

PMVI Requirements

The following lists indicate PMVI requirements that apply to carriers/operators.

Decals

- Current inspection decal showing a “passed” inspection with month and year of expiry must be affixed to vehicle
- The inspection report should be carried in the vehicle at all times (check jurisdiction)
- A copy of the completed inspection report should also be kept at the carrier's principal place of business
- Canadian vehicles with a valid PMVI inspection decal from any Canadian jurisdiction already meet U.S. standards and are not required to be re-inspected to U.S. requirements

Enforcement

- PMVI enforcement is conducted on-road and during facility audits
- Inspection reports may have to be kept for a maximum four years (check jurisdiction)
- Vehicle owners are required to keep all proof of repairs, which may be referred to when evaluating a vehicle owner maintenance program
- Fines may be imposed for operating a vehicle which has not had a required PMVI

Inspection Methods

- The pass or fail determination refers to the condition of the vehicle at the time of inspection
- The inspection is not intended to ensure that the vehicle remains in a safe condition for any particular period after the inspection
- Daily driver inspections are conducted to find obvious indications of a faulty vehicle component



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Appendix 1 – National Safety Code (NSC) Required Weight by Province (2016)

NATIONAL SAFETY CODE (NSC) – REQUIRED WEIGHT BY PROVINCE (2016)	
Province	Weight Limit
British Columbia	5,000kg
Alberta - Provincial*	11,794kg
Alberta - Federal/Inter-provincial**	4,500kg
Saskatchewan	5,000kg
Manitoba	4,500kg
Ontario	4,500kg
Quebec	4,500kg
New Brunswick	4,500kg
Nova Scotia	4,500kg
Prince Edward Island	4,500kg
Newfoundland and Labrador	4,500kg
Northwest Territories	4,500kg
Yukon	4,500kg
Nunavut	4,500kg
<p>* Refers to only driving within the province</p> <p>** Refers to driving between other provinces or territories and AB</p> <p>Prepared by the Structure, Tower & Antenna Council (STAC)</p>	



Appendix 2 – National Safety Code (NSC) Inspection Cycles by Jurisdiction

National Safety Code (NSC) Inspection Cycles by Jurisdiction				
Jurisdiction	Weight Threshold (kg)	Inspection Interval (months)		
		Truck	Trailer	Bus
British Columbia	8,201	6	6/12 ¹	6
Alberta	11,794 ²	12	12	6
Saskatchewan	11,794 ²	6/12 ³	12	6/12 ⁴
Manitoba	4,500	12	12	6
Ontario	4,500	12	12	6 ⁵
Quebec	4,500	12	12	6
New Brunswick	4,500	12	12	6
Nova Scotia	4,500	12	12	6
Prince Edward Island	4,500	12	12	6
Newfoundland & Labrador	4,500	12	12	6
Yukon Territory	4,500	6	12	6
Northwest Territories ⁶	4,500	12	12	6
Nunavut ⁷				

¹ For British Columbia - log & dump trailers: 6 months, other trailers: 12 months

² For Alberta and Saskatchewan - 11,794 kg for vehicles that operate solely within the province; vehicles travelling in other jurisdictions must comply with the inspection requirements applicable in the jurisdiction in which they are travelling.

³ For Saskatchewan - truck-tractors: 6 months, other trucks: 12 months

⁴ For Saskatchewan - school buses: 12 months, other buses: 6 months

⁵ For Ontario - Accessible vehicles and vehicles used for school purposes are inspected using the bus criteria

⁶ For Northwest Territories - The program is administered by Alberta

⁷ For Nunavut - PMVI Regulation yet to be implemented

Source: NSC Standard 11, Part B



Glossary of Terms

A-Level Inspection	A check of basic safety components and any problems noted by the driver, and which can be scheduled by the month or by kilometers.
Authorized commercial vehicle maintenance facility	A facility that is authorized by Commercial Vehicle Safety and Enforcement (CVSE) to inspect commercial vehicles through trade qualified mechanics.
B-Level Inspection	A medium-intensity inspection that includes checking basic components and a more comprehensive check where worn belts, brackets and filters may be replaced. This inspection is generally completed on a bi-monthly or quarterly basis, or between every 10,000 to 30,000 km. Any slight problems found during an A-Level Inspection would be corrected during a B-Level Inspection.
C-Level Inspection	The most intensive inspection conducted under the National Safety Code, during which all remaining components will be checked. These inspections may be scheduled every 6 months or after 50,000 km. Some carriers schedule this prior to a semi-annual or annual PMVI.
Carriers/operators	A person who owns, leases or is responsible for the operation of a commercial vehicle for the purpose of transporting passengers or goods
Commercial vehicle	A truck, tractor, trailer or combination meeting the Gross Vehicle Weight limits specified by the province
Gross Vehicle Weight Rating	The maximum laden weight of a motor vehicle as specified by the "Manufacturer."
Inspection decal	A CVSE decal affixed to a commercial vehicle certifying that a 'passed' inspection has been carried out by an approved facility and designating the date the inspection was conducted.
Jurisdictional profile	Vehicle movement from one jurisdiction to the next that may be designated by country, province, territory, possession or federal district of a country.
Original Equipment Manufacturer (OEM)	A company that makes a part or subsystem that is used in another company's end product.
Periodic Motor Vehicle Inspection (PMVI)	The PMVI program ensures uniformity of periodic inspections as well as contributing to the safety of all highway users by reducing collisions or incidents due to mechanical defects on vehicles.
Safety rating	A rating that considers a carrier's safety violation rate, facility audits, and expiry, suspension or seizure of plates.
Vehicle	A truck, a truck tractor, a trailer or a semitrailer individually or in combination.
Vehicle file	A file containing a vehicle's inspection, maintenance and repair data.