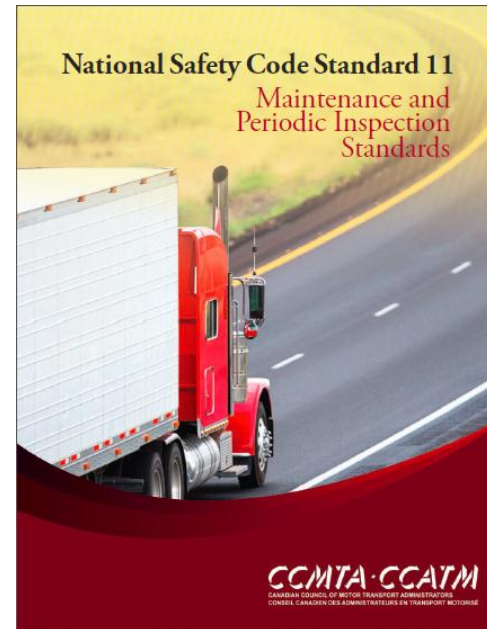


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# National Safety Code Standard 11 Part B “Periodic Motor Vehicle Inspections”



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Ministry of Transportation  
Carrier Safety Enforcement Branch

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# Agenda

- What has changed and what remains the same
- Frequency and Application
- History of Ontario's Requirements
- National Safety Code Standard 11 Part B
- Ontario Modifications
- Record Keeping and Administration
- Resources

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# What Changed

- Criteria for safety standards certificates (SSC), annual and semi-annual inspections for trucks, trailers, buses, accessible and school purposes vehicles can be found in the National Safety Code Standard 11 Part B 2014 “Periodic Commercial Motor Vehicle Inspections” (NSC 11B).
- Modifications to NSC 11B have been made in Regulation 611 of the *Highway Traffic Act* (HTA) “Safety Inspections”.
- Complementary amendments have been made to HTA Regulation 601 “Motor Vehicle Inspection Stations”.

# What did Not Change

- Vehicles that have required inspections in the past will still require inspections.
  - Annual, semi-annual and SSC.
- Inspection criteria for small vehicles, motorcycles, motor tricycles and salvage vehicles have not changed.
- Frequency of inspection of vehicles has not changed.
  - Every 12 months a full inspection for trucks, trailers, buses, accessible vehicles and school purposes vehicles and
  - Every six months an inspection without internal brake inspection for buses, accessible and school purposes vehicles.
- Current on-road standard for all vehicles has not changed.
- The ongoing operating standards have not changed.

# Frequency and Application

NSC 11B outlines inspection criteria for SSC, annual and semi-annual inspections for the following vehicles:

- **SSC Inspections:**
  - Apply to commercial vehicle (truck or trailer), bus, school purposes vehicles, accessible vehicles.
  - SSC inspections are required when transferring ownership or return a vehicle to a “fit” status.
- **Annual Safety Inspections:**
  - Apply to commercial vehicle (truck or trailer), bus, school purposes vehicles and accessible vehicles.
- **Semi-Annual Safety Inspections:**
  - Apply to bus, school purposes vehicles and accessible vehicles.

**NOTE:** Regulation 611 is still the on-road standard for these vehicles

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# History of Ontario's Requirements

- Inspection criteria for trucks, trailers, buses, accessible vehicles and school purposes vehicles have changed over the previous four years:
  - Prior to 2011, inspection requirements were outlined in Regulation 611 “Safety Inspections” Schedules 1 and 2.
  - July 1, 2011, Ontario adopted National Safety Code Standard 11 Part B version 2006.
  - January 1, 2015, National Safety Code Standard 11 Part B 2014 version came into effect in Ontario.
- Ontario has a rolling adoption of NSC 11B and therefore, when the standard is updated, the new version is automatically adopted.

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# Regulation 611 to NSC 2006

- The change from Regulation 611 to NSC 11B was significant, including:
  - Concept of a detailed list of items to be inspected paired with specific reject criteria.
  - Introduced a record of inspection outlining defaults, repairs and brake measurements to be provided to the vehicle owner.
  - New inspection criteria that better represents current vehicle technology; i.e. ABS and air bags.

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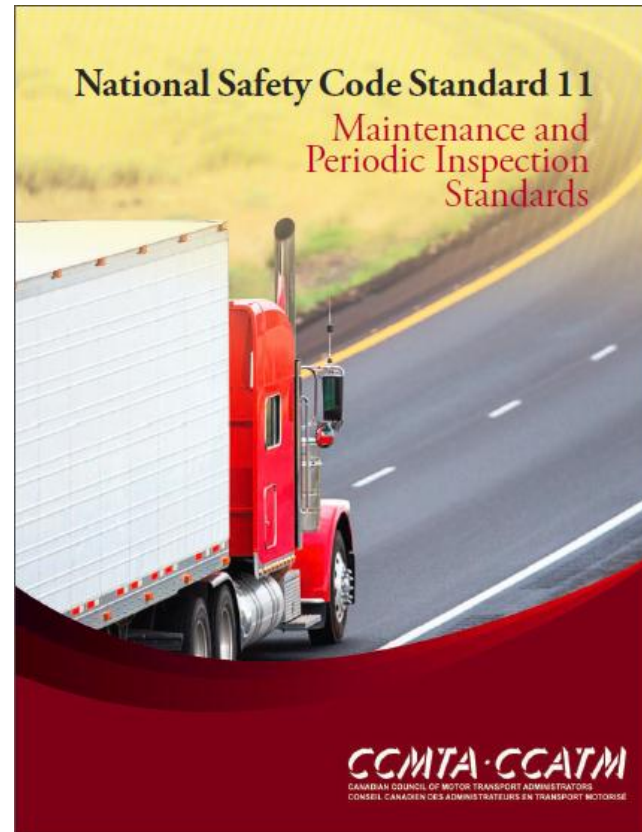
# NSC 11B 2006 to NSC 11B 2014

- Overall, the revision is more precise and explicit as to what needs to be inspected and includes some inspection items not previously covered.
- Clearly defines what the technician is responsible for when the vehicle is certified.
- Consolidating Truck, Trailer and Bus Sections together into one document and the items organized by common subjects.
- Introduces definitions for common terms.
- Clarification of which items are a visual inspection only and which involve additional procedures.



# Outline of National Standard NSC 11

- Establishes mechanical vehicle inspection criteria for trucks, trailers, buses accessible and school purposes vehicles.
- NSC 11 has two parts, A and B.
- Ontario only uses part B which starts on page 46.
- NSC 11B is used across Canada.



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# NSC 11B

- The standard was developed by representatives across Canada including government, industry and manufacturers with strong representation from Ontario.
- The standard is considerably more comprehensive and technically up-to-date than the previous iterations and was developed with the full support and expertise of industry stakeholders.
- NSC 11B is available free on-line at [www.ccmta.ca](http://www.ccmta.ca); resources; National Safety Code.

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# Outline of NSC 11B

- 10 sections of the standard broken down by vehicle systems and components:

Power Train

Suspension

Hydraulic Brakes

Air Brakes

Steering

Instruments and Auxiliary Equipment

Lamps

Electrical System

Body

Tires and Wheels

Couplers and Hitches

# Format of NSC 11B 2014

- Single document that identifies which inspection criteria applies to which vehicle, underlines defined words and indicates if additional procedures beyond a visual check is required.

Section 1 – Power Train	
ITEM AND METHOD OF INSPECTION:	REJECT IF:
<p><u>1. Accelerator Pedal/Throttle Actuator</u></p> <p><i>Additional Inspection Procedure(s):</i> With engine running, press and release the accelerator pedal. Check engine response.</p>	<p><u>Truck ✓  Trailer    Bus ✓ </u></p>
a) pedal/actuator	a) binding, <u>inoperative</u> , <u>missing</u> , or engine <u>fails to respond normally</u> - modified, or repaired by welding
b) anti-slip feature	b) ineffective, <u>loose</u> or <u>missing</u>
c) throttle position sensor and connections	c) corroded, <u>inoperative</u> , <u>insecure</u> or improperly connected

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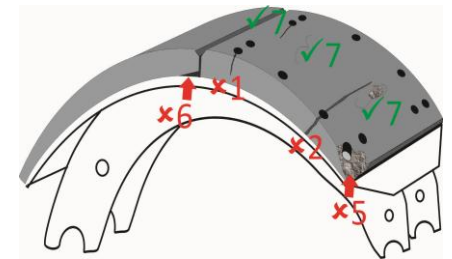
# Hazardous Conditions

- NSC 11B identifies "Hazardous Conditions" for each section.
- Hazardous Conditions shown in NSC 11B are more serious vehicle conditions.
- In some provinces, inspection stations are authorized to take certain action to prevent the vehicle from returning to service until such conditions are repaired.
- These conditions have no unique status in Ontario.

# General

## ■ NSC 11B 2014

- ❑ Inspections require a visual inspection unless otherwise stated, i.e. “Additional Inspection Procedures”.
- ❑ Commonly used terms are defined, i.e. leaking or inoperative.
- ❑ Measurement tolerances introduced to clarify the level of accuracy needed for a measurement and determine which tool to use.
- ❑ Criteria involving maximum area expressed in mm<sup>2</sup> has been changed to a maximum diameter across to make it easier to determine compliance. i.e. maximum size of a hole in a body section.
- ❑ Recordable Defect - When a double asterisk (\*\*)
- ❑ Use of diagrams to illustrate objective criteria, i.e.:



# Sample of New Items

- ❑ Emissions control system – ensure no parts have been removed and if the malfunction light is on, record on the inspection report; however, it is not a reject criteria.
- ❑ Inspection of hybrid power train system. NSC 11B provides an exemption for vehicle owners who provide proof of regular maintenance on the system.
- ❑ Inspection of aerodynamic devices.
- ❑ Tire pressure and tread depth must be measured and recorded on the Inspection Report.
- ❑ Prohibits retreads on steer axle.
- ❑ Alternative fuel systems – Ontario uses the inspection criteria in the standard and does not use Appendix A.

# Brake Systems

- Brake section is in three parts:
  1. 3 – Introduction, provides clarity of when a wheel needs to be removed.
  2. 3H – Hydraulic and other non-air brake systems.
  3. 3A – Air brake systems.
  
- Five types of brake inspections:
  - Drum Brakes
    - A. Full inspection with drums removed.
    - B. Wheel-on full inspection.
    - C. Limited inspection of drum brakes.
  - Disc Brakes
    - D. Full inspection with wheels removed.
    - E. Limited inspection of disc brakes.



# Drum Brakes

Three types of inspection for drum brakes:

- A. Full inspection with drum removed**, this is a detailed inspection of all internal components. Measurements of drum diameter and brake lining thickness must be taken and recorded on the Inspection Report.
- B. Wheel-on full inspection**, this is an inspection of the internal brake components and is only available for cam-type drum brakes with removable dust shields. Measurements of drum diameter and brake lining thickness must be taken and recorded on the Inspection Report.
- C. Limited Brake Inspection of drum brake**, this is an inspection through inspection holes and is only available with the proper and valid documentation (see Proof of Brake Inspection). Measurements of brake lining thickness of one brake shoe must be taken and recorded on the Inspection Report.

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# Disk Brakes

Two types of inspection for disc brakes:

- D. Full inspection with wheel(s) removed**, this is a detailed inspection of all internal components. Measurements of rotor thickness and pad friction material thickness must be taken and recorded on the Inspection Report.
- E. Limited Brake Inspection of disc brakes**, this is an inspection of visual accessible components only available with the proper and valid documentation (see Proof of Brake Inspection). Measurements of one brake pad must be taken and recorded on the Inspection Report.

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# When to Remove Wheels and Drums

- There are three types of brake inspection where the wheel or drum do not have to be removed; wheel-on full inspection and both Limited Brake Inspections (LBI) (Types B, C and E).
- Two types of brake inspection where the wheel and or drum have to be removed every time; Full Inspection on any disc type brakes and a Full Inspection on drum brakes with solid backing plates. (Types A and D)
- During wheel-on inspections; the wheel and drum need to be removed if:
  - Any of the required measurements cannot be taken with the wheel and drum in place.
  - Any defect is found on a brake, the wheel and drum must be removed for a full inspection in every case. (see Defective Conditions).

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# Defect Conditions

Full inspection with either drum or wheel removal is required when any defect is suspected or found during an inspection including:

- Abnormal wear of friction material, brake drum or rotor.
- Signs of overheating.
- Negative effects of corrosion – i.e. rust jacking.
- Abnormal appearance, glazing, discolouration or contamination of brake friction material.
- Damage, distortion or shifting out of place of any brake component.
- Abnormal noise or response upon application or release of the brakes.
- Age of the brake components, or the previous measurements of wear compared to current measurements, indicate that a drum, rotor, or friction material, is likely to be worn beyond the allowable limit.

Note: a complete list is available in Section 3.A.2 of NSC 11B

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# Limited Brake Inspection (LBI)

- LBI allows for a more cursory inspection of non exposed brake components when previously a full inspection was completed and documented.
- Previous full inspection must have been completed within a specific time frame to qualify for a LBI.
- LBI does not require removal of a wheel or drum, where permitted, and limits required measurements.
- LBI can only be applied to trucks and trailers in Ontario.
- Intent of LBI is to reduce inspection time and unnecessary removal of wheels and drums where it is safe to do so.

# Limited Brake Inspection cont...

- Trucks and trailers with disc brakes can use LBI with Proof of Brake Inspection Report completed by a qualified technician at a Motor Vehicle Inspection Station (MVIS) within the previous seven months.
- Trucks and trailers with drum brakes can use LBI with Proof of Brake Inspection Report completed by a qualified technician at a MVIS within the previous 19 months.

	VALIDITY OF PRIOR INSPECTION	
	DISC	DRUM
TRUCK/ TRAILER	7	19

**NOTE:** 19 months is used to accommodate jurisdictions that require an inspection every 6 months for trucks. Ontario requires trucks to be inspected every 12 months.

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# Proof of Brake Inspection Report

- A LBI can only be used if the operator provides a complete and valid Proof of Brake Inspection Report indicating a full inspection with drum and wheel removed (inspection types A or D).
- The LBI can also apply with proper and valid documentation for a brake overhaul or any type of work where the wheel is removed.
- To qualify, the inspections must have been conducted by a qualified technician at a MVIS and all the required information is included in the Proof of Brake Inspection Report.
- The report can cover one, several or all of the brakes on a vehicle.
- A report is valid for 19 months for a drum brake and 7 months for a disc brake.

# Proof of Brake Inspection

- MVIS locations can make their own and can accept any Proof of Brake Inspection Report as long as the following information is include:
  - *Date*
  - *Odometer*
  - *VIN*
  - *Technician name/ number & signature*
  - *MVIS Inspection station name/number*
  - *Brake measurements*
  - *Declaration that the wheels/drum were removed*
- Brake measurements must include:
  - Drum Brakes*
    - *Drum diameter*
    - *Thickness of brake shoe lining*
  - Disc Brakes*
    - *Thickness of the rotor*
    - *Thickness of brake pad lining*
- Ontario requires the inspection to be conducted at a licensed MVIS.



# How LBI Can Be Used

## ON-GOING BRAKE INSPECTION OPTIONS for Truck & Trailer on 12 month inspection cycle

Brake used	<u>Type of inspection last completed</u> (Starting Month)	Inspection required	
		<u>12 mo. later</u>	<u>24 mo. later</u>
Drum with <u>removable dust shields</u>	<i>full inspection with drum removed (A)</i>	LBI	A or B
	<i>wheel-on full inspection (B)</i>	B	B
Drum with <u>rigid backing plate</u>	<i>full inspection with drum removed (A)</i>	LBI	A
Disc	<i>full inspection with wheel(s) removed (D)</i>	D	D

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# Ontario Modifications to NSC 11B 2014

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# Modification – External Sun Visors

## **NSC 11B Requirement**

- Sun visor cannot be more than 150 mm below upper edge of windshield and overlap the swept portion of the windshield.

## **Modification**

- All vehicles are exempt from this requirement in Ontario.

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# Modification – Add-on Window Tint

## **NSC 11B Requirement**

- No aftermarket tint on a windshield and up to 70% light transmittance on side windows.

## **Modification**

- Apply limitations in NSC 11B only to vehicles manufactured on or after July 1, 2011.

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# Modification – ABS

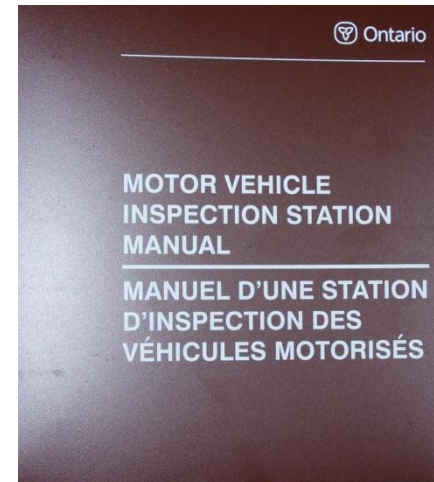
## **NSC 11B Requirement**

- Vehicles manufactured on or after April 1, 2000 must have functioning ABS.
- Vehicles manufactured before April 1, 2000 equipped with ABS must have the system in good working order.

## **Modification**

- Exempt any requirement regarding ABS for vehicles manufactured prior to April 1, 2000.

# Record Keeping and Administration



Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
											12	
<b>Ministry of Transportation / Ministère des Transports</b>											13	
<b>Annual Inspection / Inspection Annuelle</b>												
<b>Vehicle Type / Type de véhicule</b> Without a semi-annual inspection sticker expires at the end of the 6th month after inspection, with a semi-annual inspection sticker expires at the end of the 12th month after inspection.												14
<input type="radio"/> <b>Bus/Accessible School Purposes / Bus accessible à vocation scolaire</b> Sans inspection semestrielle la vignette expire à la fin du 6 <sup>e</sup> mois suivant l'inspection, en cas d'inspection semestrielle, la vignette expire à la fin du 12 <sup>e</sup> mois suivant l'inspection.												15
<input type="radio"/> <b>Commercial / Trailer / Commercial / remorque</b> Expires at the end of the 12th month after inspection Expire à la fin du 12 <sup>e</sup> mois suivant l'inspection												16
												17
												18
												19
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Ministry of Transportation / Ministère des Transports  
**Safety Standards Certificate - Form 5**  
 Issued pursuant to the Highway Traffic Act and Regulations  
**Certificat de normes de sécurité - Formule 5**  
 Délivré conformément au Code de la route et à ses règlements

For Ministry Use Only  
 Réservé au ministère  
 Agent No. / Date d'inspection / Day / Month / Year

Please Print / Écrire en lettres moulées

**Motor Vehicle Inspection Station / Centre d'inspection des véhicules automobiles**  
 Licensee Number / Name of Licensee / Nom du titulaire  
 City, Town or Village / C.M., ville ou village

**Inspecting Mechanic / Mécanicien ayant effectué l'inspection**  
 Trade Code / Nom commercial / Certificate No. / Numéro du certificat / Name of Mechanic / Nom du mécanicien

**Vehicle / Véhicule**  
 Make of Vehicle / Marque du véhicule / Year / Année / Type of Body / Type de carrosserie / Odometer Reading on Date of Inspection / Kilométrage au compteur à la date de l'inspection

indicate manufacturer's Gross Vehicle Weight Rating / Inscrire le poids brut du véhicule donné par le constructeur  
 4600 Kg or under / 4600 kg ou moins  
 Over 4600 kg / Plus de 4600 kg

**Date of Inspection / Date de l'inspection**  
 Year / Année / Month / Mois / Day / Jour

**This Certificate expires 36 days from this date / Ce certificat expire 36 jours à compter de cette date**

We hereby certify that the above described motor vehicle has been inspected in accordance with the provisions of Sections 88 to 100 of the Highway Traffic Act and Regulations issued thereunder, and that the items inspected met the prescribed standards on the Date of Inspection.  
 Nous certifions par la présente que le véhicule automobile décrit ci-dessus a été inspecté conformément aux dispositions des articles 88 à 100 du Code de la route et de ses règlements et que les articles inspectés sont conformes aux normes en vigueur à la date de l'inspection.

Signature of Inspecting Mechanic / Signature du mécanicien ayant effectué l'inspection  
 Signature of Licensee / Agent / Signature du titulaire du permis ou de son agent

**MINISTRY OF TRANSPORTATION COPY / COPIE DU MINISTÈRE DES TRANSPORTS**


SR-E-014 93-01

- Present this copy for transfer or registration purposes
- This certificate indicates that the items on the reverse side met the required standards on the date of inspection and is not a warranty on the condition of the vehicle.
- Présentez cette copie aux fins de transfert ou d'immatriculation
- Ce certificat indique que les articles ou pièces mentionnés au verso sont conformes aux normes requises à la date de l'inspection mais ne constitue pas une garantie de l'état du véhicule.

# Record Keeping Requirements

- All public MVIS locations must display the green “Motor Vehicle Inspection Station” sign.
- All MVIS locations must display the MVIS licence.
- Motor Vehicle Inspection Station manual must be kept up to date including:
  - Current copy of the HTA Sections 85 – 100, Regulation 611 “Safety Standards” and Regulation 601 “Motor Vehicle Inspection Stations”. Copies can be downloaded from [www.e-Laws.com](http://www.e-Laws.com),
  - Current version of MVIS Circulars, and
  - Registered mechanics and signing authorities.
- Record of all stock including all copies of issued inspection certificates and all unused certificates and stickers.
- MVIS must provide MTO with an up to date record of all active corporate directors and officers.
- All records are to be kept for one year from the date of issue.

# Annual Inspection Sticker

Jan	Feb Fév	Mar	Apr Avr	May Mai	Jun Juin	Jul Jui	Aug Août	Sept	Oct	Nov	Dec Déc
 <b>Ontario</b>											12
Ministry of Transportation / Ministère des Transports											13
<b>Annual Inspection/Inspection Annuelle</b>											
<b>Vehicle Type/ Type de véhicule</b>		Without a semi-annual inspection sticker expires at the end of the 6th month after inspection, with a semi-annual inspection sticker expires at the end of the 12th month after inspection.									14
<input type="radio"/> Bus/Accessible School Purposes Bus/accessible/à vocation scolaire		Sans inspection semestrielle la vignette expire à la fin du 6 <sup>e</sup> mois suivant l'inspection, en cas d'inspection semestrielle, la vignette expire à la fin du 12 <sup>e</sup> mois suivant l'inspection.									15
<input type="radio"/> Commercial / Trailer Commercial/remorque		Expires at the end of the 12th month after inspection Expire à la fin du 12 <sup>e</sup> mois suivant l'inspection									16
H 0000000											17
(Empty space for registration number)											18
(Empty space for registration number)											19

## Trucks and Trailers

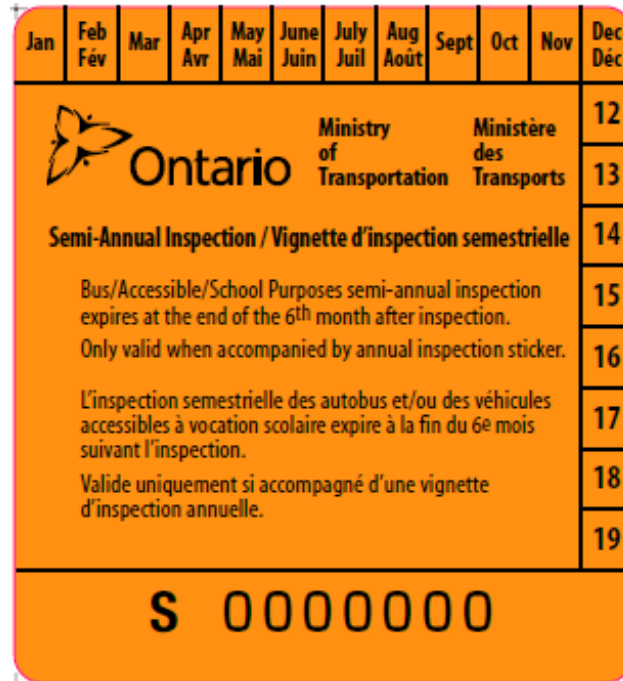
- Valid until the end of the 12<sup>th</sup> month after inspection.

## Bus, school purposes or accessible vehicle

- Valid until the end of 12<sup>th</sup> month after inspection if vehicle displays a valid semi-annual sticker, otherwise valid for six months.



# Semi-Annual Inspection Sticker



## **Bus, school purposes or accessible vehicle ONLY:**

- Valid until end of the sixth month after inspection must be accompanied by an annual inspection sticker.

# Inspection Certificates

Annual and semi-annual inspection certificate:

- Three copies – the yellow copy stays with the inspection station and the two white copies go to the operator, (vehicle and file).
- All records must be kept for one year.

**Ontario** Ministry of Transportation / Ministère des Transports

**Annual Inspection Certificate**  
**Certificat d'inspection annuelle**

H 0000000

Make/ Marque	Model/ Modèle	VIN/VIN	Issued/ Issué
License Plate No./ N <sup>o</sup> de plaque d'immatriculation	Vehicle Owner/ Propriétaire/exploitant(e) du véhicule		
Odometer/ Compteur kilométrique	Street No. & Name/ Rue et n <sup>o</sup>		
City/ Town/Ville	Province/ State/ Province/ État	Postal Code/ Code postal	

Vehicle Type/ Type de véhicule

Bus/ Accessible/ School Purpose/ Bus accessible/ à vocation scolaire

Commercial/ Trailer/ Dolly/ Commercial/ Remorque/ Train d'attelage

# Inspection Reports

## Annual and semi-annual inspection report

- Must be completed for each vehicle and include:
  - ❑ Date of inspection,
  - ❑ Vehicle Identification Number (VIN),
  - ❑ Inspection sticker number,
  - ❑ Brake drum diameter, rotor thickness, lining thickness, pushrod stroke, tire pressure and tread depth measurements recorded,
  - ❑ List of defects,
  - ❑ Recommended and actual repairs,
  - ❑ Signed by the mechanic and licensee, and
  - ❑ One copy is to kept by the licensee and one provided to the carrier.
- MVIS must keep all records for one year and all CVOR holders must keep all records for two years.

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# Record Keeping

- Annual inspection is completed as per the requirements in NSC 11B.
- At the time a vehicle passes the inspection with all criteria met/passed a yellow annual inspection sticker is applied indicating the month and year the inspection was completed:
  - Truck – lower left hand side of the windshield or conspicuous position on the left side of the truck cab.
  - Trailer – outer surface, on the left side and as close as practicable to the front.
- All other Ontario inspection stickers are covered or removed.
- The annual inspection certificate and report are completed and signed.
- The inspection is valid for 12 months.
- MVIS licensee must provide the owner operator with a copy of the annual inspection certificate and the annual inspection report.

# Resources

- MTO has developed resources which are posted on the public website [www.mto.gov.on.ca/english/trucks](http://www.mto.gov.on.ca/english/trucks)
  - Commercial Vehicle Operators' Safety manual
  - NEW Motor Vehicle Inspection Station webpage, which includes links to:
    - Required forms,
    - Order stickers and certificates,
    - NSC 11B,
    - HTA and related regulations, and
    - Updated circulars.