

CAV & TRUCKING: POLICIES AND BEST PRACTICES

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CVSA Enhanced CMV Inspection Standard (for motor carrier operations)

Who is CVSA?



The Commercial Vehicle Safety Alliance (CVSA) is a nonprofit organization comprised of local, state, provincial, territorial and federal commercial motor vehicle safety officials and industry representatives. The Alliance aims to prevent commercial motor vehicle crashes, injuries and fatalities and believes that collaboration between government and industry improves road safety and saves lives. Our mission is to improve commercial motor vehicle safety and enforcement by providing guidance, education and advocacy for enforcement and industry across North America.



About CVSA



- Roadside CMV Inspector Certification
- North American Standard (NAS) Inspection Procedures
- NAS Training Program
- CVSA Decal Program
- NAS Out-of-Service Criteria
- NAS Inspection Levels
- Outreach and Education
- Policy Development



CVSA Committees



- Ten development and implementation committees meet twice annually
- Committee work documents, agendas and minutes are available to members through the CVSA Member Portal
- CVSA Committees:
 - Crash Data and Investigation Standards Committee
 - Driver-Traffic Enforcement Committee
 - Enforcement and Industry Modernization Committee
 - Hazardous Materials Committee
 - Information Systems Committee
 - Passenger Carrier Committee
 - Policy and Regulatory Affairs Committee
 - Size and Weight Committee
 - Training Committee
 - Vehicle Committee



Enforcement and Industry Modernization (EIM) Committee



- Committee's mission: Identify technological advancements that can be leveraged to improve commercial motor vehicle safety by enhancing the performance, quality and uniformity of commercial motor vehicle inspections and transforming enforcement-related activities.
- The committee appointed an [Automated CMV Working Group](#) to consider alternatives to traditional roadside inspections (Level I inspection is not compatible without a driver present; Level V inspection requires access to the cab; etc.).

Goal

- Explore how best to incorporate self driving trucks into the North American Standard Inspection Program
- How will inspectors ensure the truck and trailer components are being maintained properly?

Process

- Evaluated every step of current inspection procedure to determine which steps had the ability to be automated
- Evaluated whether there were new ways the process could be completed while maintaining or raising the bar of safety
- Developed eight options

Conclusions

- ADS operated vehicles incompatible with today's roadside enforcement inspections
- Roadside inspections/weigh stations are challenging
- Federal regulatory standards for ADS driving performance are needed
- Option 2 – SAE Level 1 to 3 vehicles – keep current system with added step
 - Verify dash mounted tell-tale to confirm system operating (requires rulemaking)
- Option 7 – SAE Level 4 and 5 vehicles – developed new program

No-defect, point-of-origin inspection program for Level 4 and 5 equipped commercial motor vehicles

- Subject to an Enhanced CMV Inspection by certified inspector prior to beginning trip, periodically once trip begins
- Vehicle must communicate data set wirelessly to enforcement
- Bypass inspection stations and minimize en route stops – imminent hazard

CVSA Enhanced CMV Inspection Program



CVSA Enhanced Commercial Motor Vehicle Inspection Standard (for motor carrier operations)

CVSA Enhanced Commercial Motor Vehicle Inspection Standard (for motor carrier operations)



Tractor/Semitrailer (Air Brake-Diesel/Gasoline)



April 2023 Edition

- CVSA Enhanced CMV Inspection Standard, Checklist and Procedure
- CVSA Enhanced CMV Inspection Course Participant/Instructor Manuals
- CVSA Enhanced CMV Inspection Course Training (11 sections)
- CVSA Operational Policy 18 – Non-Enforcement Inspector and Instructor Certification

Inspection Standard

- Vehicle Requirements
10 sections
- Cargo Securement
One section

CVSA ENHANCED COMMERCIAL MOTOR VEHICLE INSPECTION STANDARD

(for motor carrier operations)

Tractor/Semitrailer (Air Brake-Diesel/Gasoline)

Table of Contents

Inspection Guidance	4
Glossary of Terms.....	4
Categorization of Fluid (Liquid) Leaks	4
Defective Conditions of Hose, Tubing and Lines used on Commercial Motor Vehicles	5
1 — Power Train	
1) Accelerator Pedal.....	6
2) Exhaust System	6
3) Drive Shaft and Differential	7
4) Gasoline or Diesel Fuel System.....	7
2 — Suspension	
1) Suspension and Frame Attachments.....	8
2) Axle Attaching and Tracking Components.....	8
3) Axle & Axle Assembly	8
4) Spring & Spring Attachment	8
5) Air Suspension	9
6) Shock Absorber.....	9
3 — Brakes (AIR)	
1) Air Compressor	10
2) Air Supply System	10
3) Air System Leakage on a Trailer.....	10
4) Air Tank.....	11
5) Brake Pedal/Actuator	11
6) Treadle Valve	11
7) Brake Valves and Controls.....	11
8) Towing Vehicle (Tractor) Protection System	11
9) Parking Brake and Emergency Application on Truck.....	11
10) Parking Brake and Emergency Application on Trailer	12
11) Air System Components	12
12) Brake Chamber	12
13) Drum Brake System Components.....	13

CVSA Enhanced CMV Inspection Materials



Inspection Checklist



Enhanced CMV Inspection Report – Tractor/Semitrailer (Air Brakes)

Refer to the Enhanced Commercial Motor Vehicle Inspection Standard for Defect Criteria

Inspection Date/Time: _____ Location: _____ Odometer Reading: _____

Plate/Unit Number(s): _____ Dispatch/In-Transit _____ Name/Signature: _____
(Circle applicable inspection) (Printed name and signature of inspector)

I – Inspection Component (Mark "X", if Defective) / E – Enhanced CMV Inspection Standard Reference

Inspection Step	I	E
2 – Front of Tractor	X	E
• Periodic Inspection Decal/Document		Valid for 3 months
• Headlamp		6.1.a/b
• Turn Signal		6.1.a/e
• Hazard Warning Lamp		6.1.a/f
• Clearance Lamp		6.1.a/h
• Identification Lamp		6.1.a/i
• Bumper		8.10.a-b
• ADS System		5.10.a
3 – Left Front Side of Tractor	I	E
• Hood or Engine Enclosure		8.1.a-d
• Front fender		8.3.d
• Cab and Passenger Vehicle Body		8.3.a-c
• Frame, Rails and Mounts		8.5.a-b

Inspection Step	I	E
7 – Left Side of Trailer	X	
• Left Side Marker Lamp		6.1.a/g
• Retro-Reflective Marking		6.3.a-d
• Cargo Body		8.4.a-i
• Frame, Rails and Mounts		8.5.a-b
• Landing Gear on Trailer		8.20.a-c
• Sliding Axle Assembly		8.21.a-c
• Aerodynamic Device		8.22.a
8 – Left Rear of Trailer	I	E
• Tires - Tread Depth		9.1.b
• Tires - Tread/Sidewall Condition		9.2.a-d
• Tires - Sidewall Markings		9.3.a-b
• Tires - Inflation		9.4.a-c
• Wheels - Hub		9.5.a-e



Enhanced CMV Inspection Report – Tractor/Semitrailer (Air Brakes)

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• Turn Signal		6.1.a/e
• Hazard Warning Lamp		6.1.a/f
• Clearance Lamp		6.1.a/h
• Identification Lamp		6.1.a/i
• Bumper		8.10.a-b
• ADS System		5.10.a
3 – Left Front Side of Tractor	I	E
• Hood or Engine Enclosure		8.1.a-d
• Front fender		8.3.d
• Cab and Passenger Vehicle Body		8.3.a-c
• Frame, Rails and Mounts		8.5.a-b
• Cab Door		8.7.a-b
• Side Windows		8.12.a-b
• Rear-view Mirror		8.16.a-d
• Tires - Tread Depth		9.1.a
• Tires - Tread/Sidewall Condition		9.2.a-d
• Tires - Sidewall Markings		9.3.a-b
• Tires - Inflation		9.4.a-c
• Wheels - Hub		9.5.a-e
• Wheels - Rim		9.6.a
• Wheels - Spoke		9.7.a-c
• Wheels - Disc		9.8.a
• Wheels - Fasteners		9.9.a-b
4 – Left Saddle Tank Area	I	E
• Exhaust System		1.2.a-h
• Fuel System		1.4.a-e
• Battery		7.2.a-d
• Frame, Rails and Mounts		8.5.a-b
5 – Trailer Front/Rear of Tractor	I	E
• Air System (Gladhands/Fittings/Leaks)		3.11.a-c
• Headache Rack, if applicable		5.9.a
• Wiring		7.1.a-c
• Trailer Cord		7.3.a-b
• Air Suspended Cab		8.2.a-d
• Unintended Body Elements (bulkhead)		8.6.a
• Reefer or Auxiliary Power Unit		8.9.a
6 – Left Rear Tractor Area	I	E
• Tail Lamp		6.1.a/c
• Stop (Brake Lamp)		6.1.a/d
• Turn Signals		6.1.a/e
• Hazard Warning Lamps		6.1.a/f
• Back-up/Reverse Lamp		6.1.a/i
• License Plate Lamp		6.1.a/k
• Reflex Reflector		6.2.a-c
• Retro-Reflective Marking		6.3.a-d
• Rear Window		8.13.a
• Fender/Mudflap		8.15.a
• Tire Tread Depth		9.1.b
• Tires - Tread/Sidewall Condition		9.2.a-d
• Tires - Sidewall Markings		9.3.a-b
• Tires - Inflation		9.4.a-c
• Wheels - Hub		9.5.a-e
• Wheels - Rim		9.6.a
• Wheels - Spoke		9.7.a-c
• Wheels - Disc		9.8.a
• Wheels - Fasteners		9.9.a-b
• Automated Coupling Device		10.2.a
• Fifth Wheel Coupler		10.3.a-f

Inspection Step	I	E
7 – Left Side of Trailer	X	E
• Left Side Marker Lamp		6.1.a/g
• Retro-Reflective Marking		6.3.a-d
• Cargo Body		8.4.a-i
• Frame, Rails and Mounts		8.5.a-b
• Landing Gear on Trailer		8.20.a-c
• Sliding Axle Assembly		8.21.a-c
• Aerodynamic Device		8.22.a
8 – Left Rear of Trailer	I	E
• Tires - Tread Depth		9.1.b
• Tires - Tread/Sidewall Condition		9.2.a-d
• Tires - Sidewall Markings		9.3.a-b
• Tires - Inflation		9.4.a-c
• Wheels - Hub		9.5.a-e
• Wheels - Rim		9.6.a
• Wheels - Spoke		9.7.a-c
• Wheels - Disc		9.8.a
• Wheels - Fasteners		9.9.a-b
9 – Rear of Trailer	I	E
• ABS Malfunction Lamp		3.19.a
• Tail Lamp		6.1.a/c
• Stop (Brake Lamp)		6.1.a/d
• Turn Signals		6.1.a/e
• Hazard Warning Lamp		6.1.a/f
• Clearance Lamp		6.1.a/h
• Identification Lamp		6.1.a/i
• License Plate Lamp		6.1.a/k
• Projecting Load Lamp, if equipped		6.1.l
• Reflex Reflector		6.2.a-c
• Retro-Reflective Marking		6.3.a-d
• Cargo Door		8.7.a-b
• Aerodynamic Device		8.22.a
• Rear Impact Guard		8.23.a-b
10 – Right Rear of Trailer	I	E
• Frame, Rails and Mounts		8.5.a-b
• Tire Tread Depth		9.1.b
• Tires - Tread/Sidewall Condition		9.2.a-d
• Tires - Sidewall Markings		9.3.a-b
• Tires - Inflation		9.4.a-c
• Wheels - Hub		9.5.a-e
• Wheels - Rim		9.6.a
• Wheels - Spoke		9.7.a-c
• Wheels - Disc		9.8.a
• Wheels - Fasteners		9.9.a-b
11 – Right Side of Trailer	I	E
• Right Side Marker Lamp		6.1.a/g
• Retro-Reflective Marking		6.3.a-d
• Cargo Body		8.4.a-i
• Frame, Rails and Mounts		8.5.a-b
• Landing Gear on Trailer		8.20.a-c
• Sliding Axle Assembly		8.21.a-c
• Aerodynamic Device		8.22.a
12 – Right Rear Tractor Area	I	E
• Retro-Reflective Marking		6.3.a-d
• Air Suspended Cab		8.2.a-d
• Frame, Rails and Mounts		8.5.a-b
• Fender/Mudflap		8.15.a
• Tire Tread Depth		9.1.b
• Tires - Tread/Sidewall Condition		9.2.a-d
• Tires - Sidewall Markings		9.3.a-b
• Tires - Inflation		9.4.a-c

Inspection Procedure

Enhanced Commercial Motor Vehicle Inspection Procedure (for motor carrier operations)

Revised: Feb. 15, 2023

STEP 1 PREPARE THE VEHICLE FOR INSPECTION

Ensure the CVSA Enhanced Periodic Inspection decals on each vehicle are valid.


Check the license plate, DOT number and carrier name on the truck.

Place chock blocks ahead and behind the drive axle.

Prepare the vehicle as follows:


- Place the vehicle transmission out of gear and release all brakes.
- Confirm that the air system pressure is at the maximum pressure before continuing with the inspection. Note the air pressure.
- Engine must be off; key must be in the “on” position to inspect the proper operation of the lamps (i.e., tail, stop, ABS lamp, etc.).
- Observe the dash panel area when the key is turned on for the function test of the ABS malfunction lamp(s) (when applicable).
- The trailer ABS malfunction lamp(s) may also be checked during this step.

NOTE: Refer to Inspection Bulletin 2013-02 — Antilock Brake System Inspections.



Inspection Procedure

Enhanced CMV Inspection (for motor carrier operations)



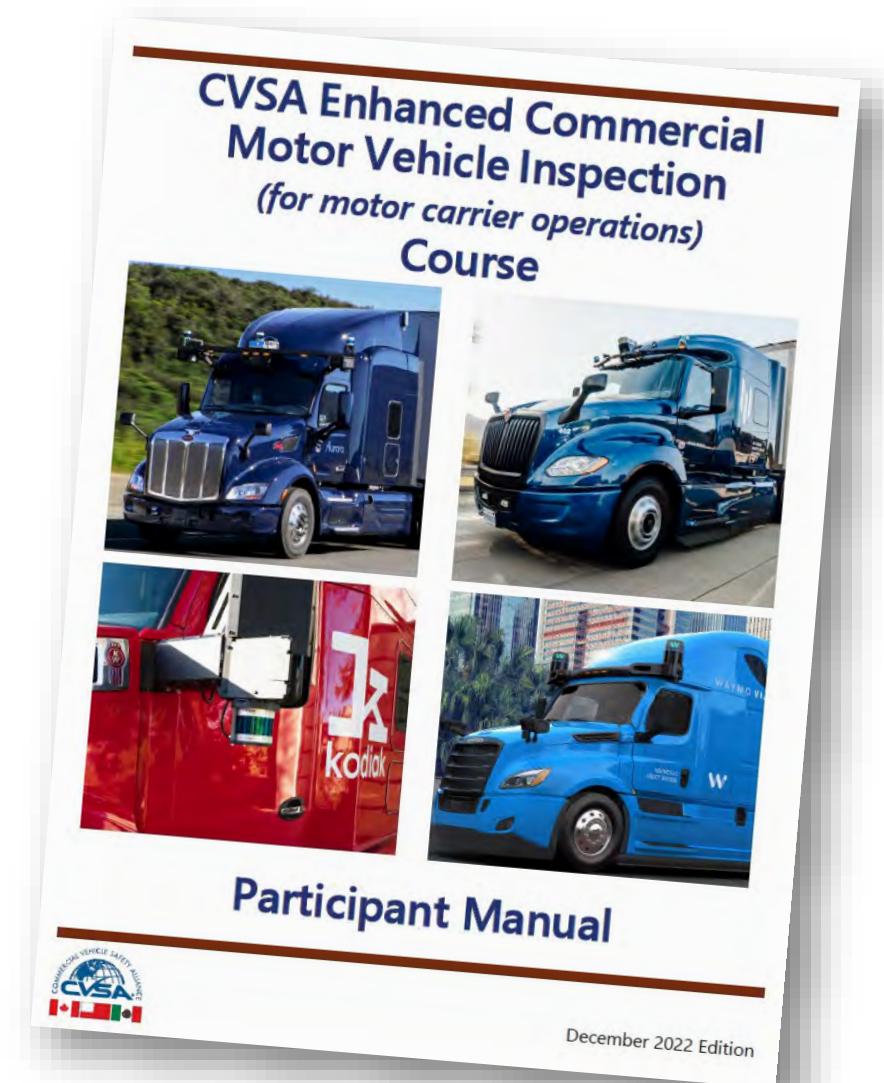
- 1 Prepare the Vehicle for Inspection**
 - Check the periodic inspection(s) for validity.
 - Check the license plate, DOT number and carrier name.
 - Place the chock blocks, put the vehicle transmission in neutral, release all the brakes, ensure the air pressure is at maximum, turn engine off and ensure the key is in the “on” position.
- 2 Inspect Front of Tractor (and the rear for lighting)**
 - Check headlamps (low and high beam), ID, clearance, turn signals, and any other required lamps for improper color, operation, mounting and visibility.
 - Ensure the ABS lamp on the trailer is marked and not activated.
 - Inspect the bumper for security.
 - Inspect ADS sensors (camera, lidar, radar)
- 3 Inspect Left Front Side of Tractor**
 - Inspect the hood and latch.
 - Check front wheel, rim, hub and tire.
 - Inspect visible portions of the frame.
 - Inspect the door for operation.
 - Check the side windows and rearview mirror.
- 4 Inspect Left Saddle Tank Area**
 - Check fuel tank area.
 - Check exhaust system, if applicable.
 - Inspect the battery for security and leaks, if visible.
 - Inspect visible portions of the frame and mounts.
- 5 Inspect Trailer Front/Rear of Tractor**
 - Check air and electrical lines.
 - Inspect the cab air suspension, shocks and reefer, if applicable.
 - Inspect the cab reflective markings
 - Inspect the headache rack or bulkhead of trailer.
 - Inspect the fenders for security.
- 6 Inspect Left Rear Tractor Area**
 - Check wheels, rims, hubs and tires
 - Check the lower, upper and slider components of the fifth wheel assembly.
 - Check all required lamps and reflective tape.
 - Check the rear window, if applicable.
 - Check the condition of the mudflaps/fenders.
 - Inspect the reefer, if applicable.
- 7 Inspect Left Side of Trailer**
 - Inspect the landing gear.
 - Check frame and body (upper/lower rails/crossmembers of trailer).
 - Check the condition of the aerodynamic device, if applicable.
 - Check the reflective tape along the side of the trailer.
- 8 Inspect Left Rear Trailer Wheels**
 - Check wheels, rims, hubs and tires.
 - Check the frame and visible suspension components.
 - Ensure the sliding subframe is secured and the pins, guides and handle are in place.
 - Inspect the condition of the mudflaps.
- 9 Inspect Rear of Trailer**
 - Inspect the reflective markings.
 - Inspect the rear impact guard, if applicable.
 - Inspect the aerodynamic device, if applicable.
 - Check the condition of the cargo doors and the security of the cargo.
 - Check the tail lamps, license plate lamp and lamp on projected load.
- 10 Inspect Right Rear Trailer Wheels**
 - Check as in step 8.
- 11 Inspect Right Side of Trailer**
 - Check as in step 7.
 - Check the spare tire security, if applicable.
- 12 Inspect Right Rear Tractor Area**
 - Check as in step 6.
- 13 Inspect Right Saddle Tank Area**
 - Check as in step 4.
- 14 Inspect Right Front Side of Trailer**
 - Check as in step 3.
- 15 Inspect Steering Axle (activate hazard lamps)**
 - Inspect hazard lamps.
 - Pull the hood of the tractor to get a better view of components.
 - Check steering system (power steering fluid), front suspension and front brake components.
 - Scribe the brakes, if necessary and determine chamber size.
 - Check the front axle, frame and crossmembers.
 - Inspect visible inside sidewall tire condition.

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Participant Manual

- 40-hour course – classroom and practical learning
- Exam includes written and practical components
- 85% required to pass



Course Presentation

CVSA Enhanced Commercial Vehicle Inspection Course

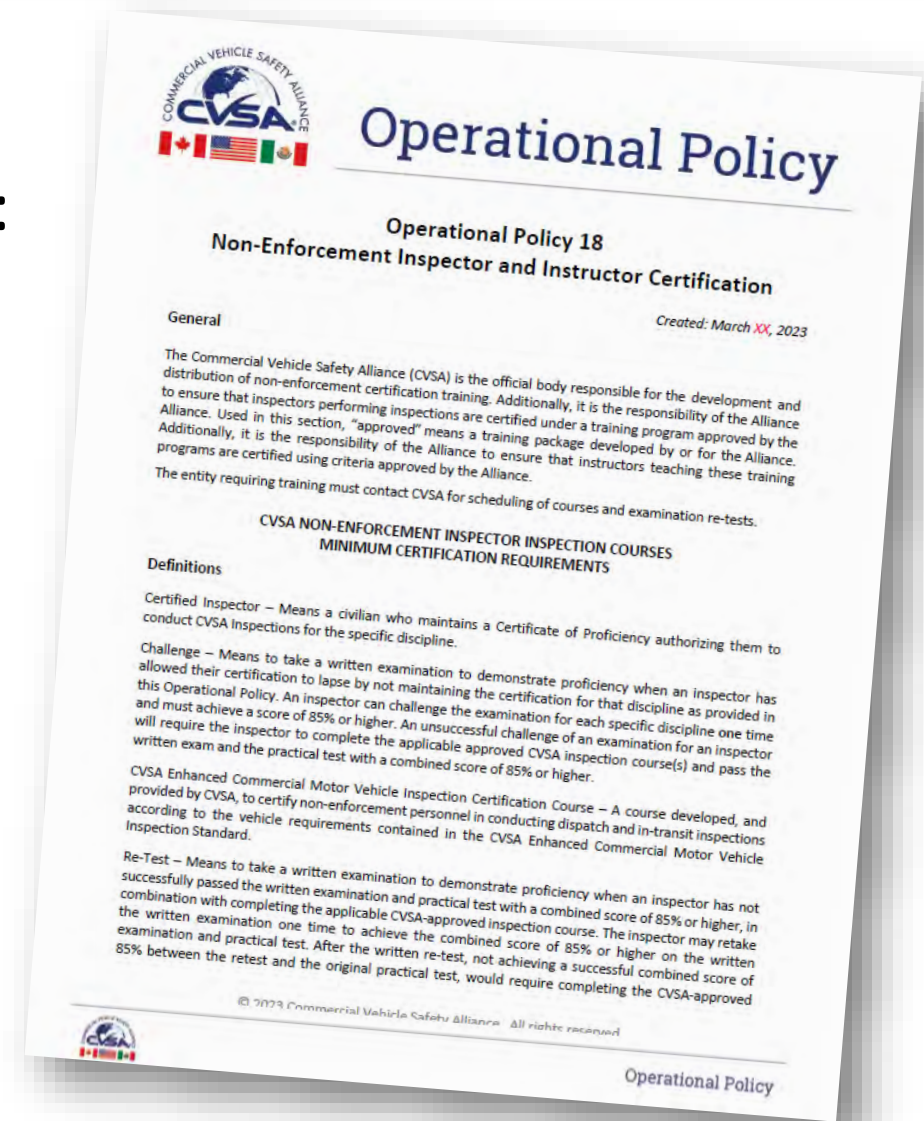


- This course is intended to train individuals employed by a motor carrier to be certified to conduct the CVSA Enhanced Commercial Motor Vehicle Inspection on vehicles prior to dispatch and for inspections in-transit.
 - Final Exam – 90%
 - Practical Inspection – 90%
 - 32 Inspections with a certified inspection coach prior to full certification



CVSA Operational Policy 18

- Certification and Maintenance Requirements:
 - Inspectors
 - Instructors



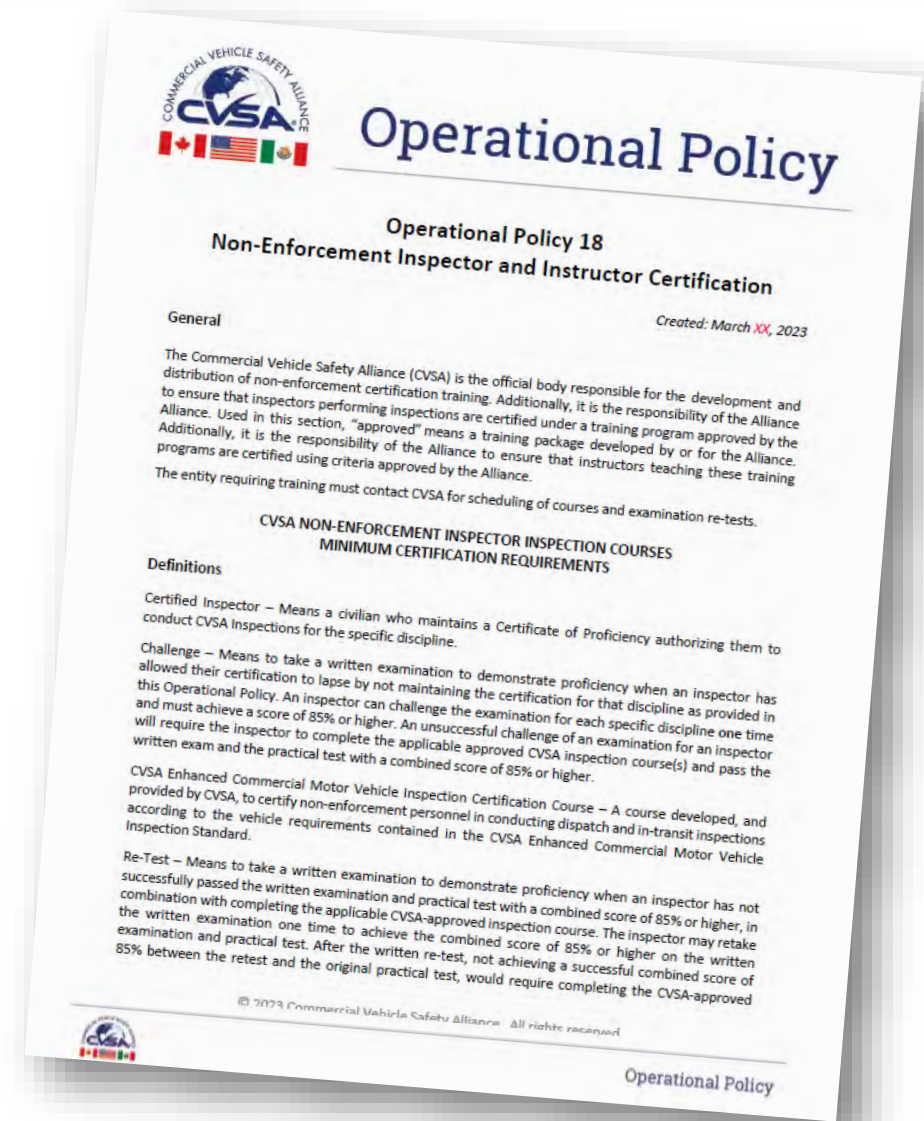
Inspector Certification

Obtain Certification:

- Attend Enhanced Course
- Pass with 85% or higher

Maintain Certification:

- Attend annual in-service training and pass (90%) exam
- Conduct 32 inspections annually



Instructor Certification

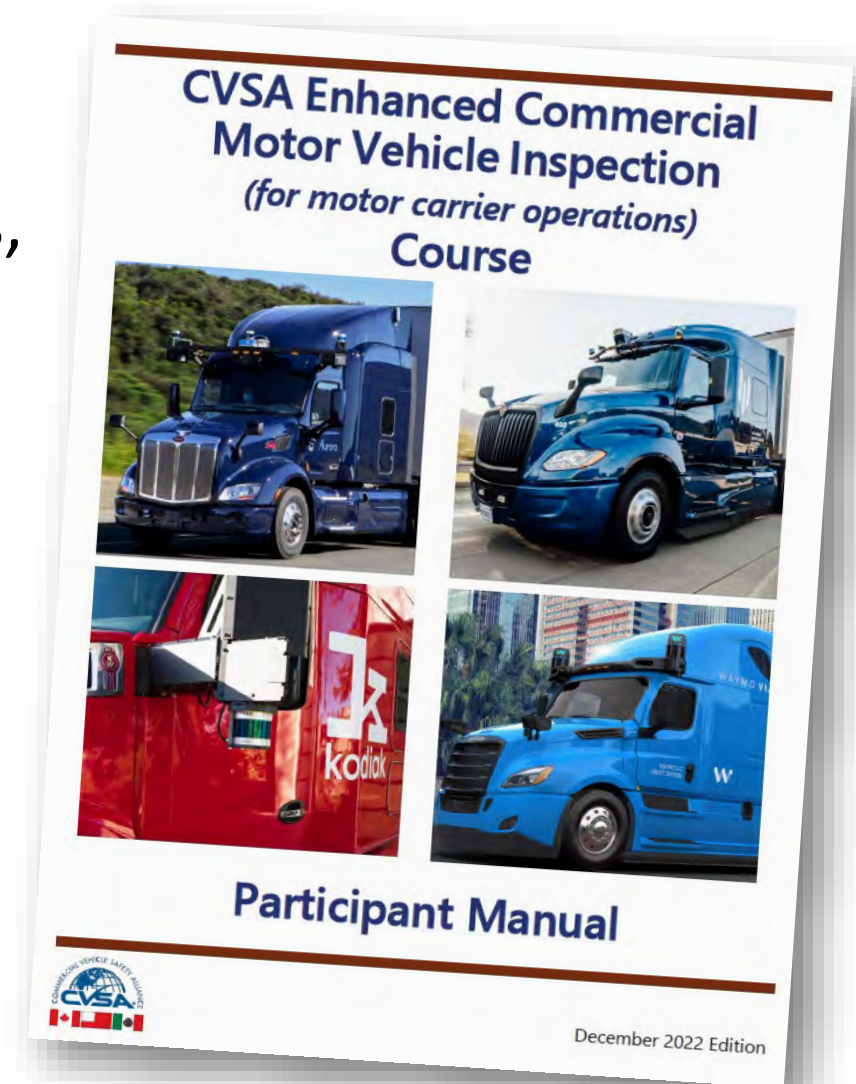
- Qualified instructor
- Enhanced inspection certified
- Pass annual in-service training exam



2022 Beta Test



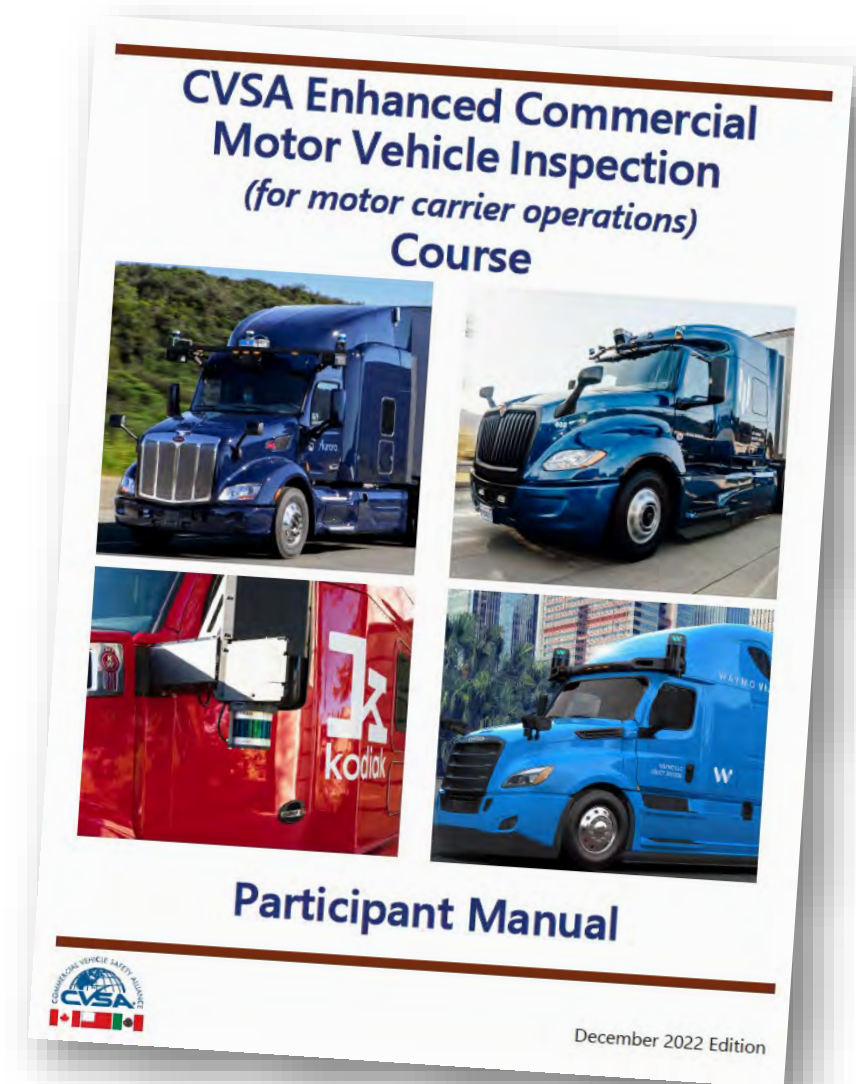
- May 2-6, 2022 – Grapevine, Texas
- 32 attendees – ADS developers, motor carriers, enforcement and CVSA staff
- CVSA staff delivered the course and attendees went through the training
- Revised course based on feedback



Inaugural Certification Course



- Feb. 13-17, 2023 – Grapevine, Texas
- 33 registered
- 20 Certified Inspectors
- CVSA staff delivered the course and attendees went through the training
- Revised course based on feedback



CVSA Enhanced CMV Inspection Process

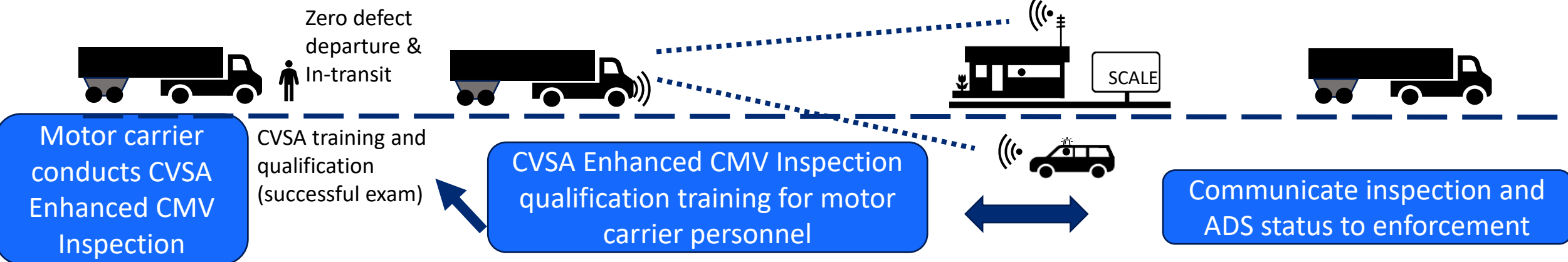


CVSA North American Standard Inspection



CVSA Enhanced CMV Inspection (for motor carrier operations)

- Method of identifying ADS trucks needed
- Stops for inspections limited unless imminent hazards observed



CVSA Enhanced CMV Inspection Process

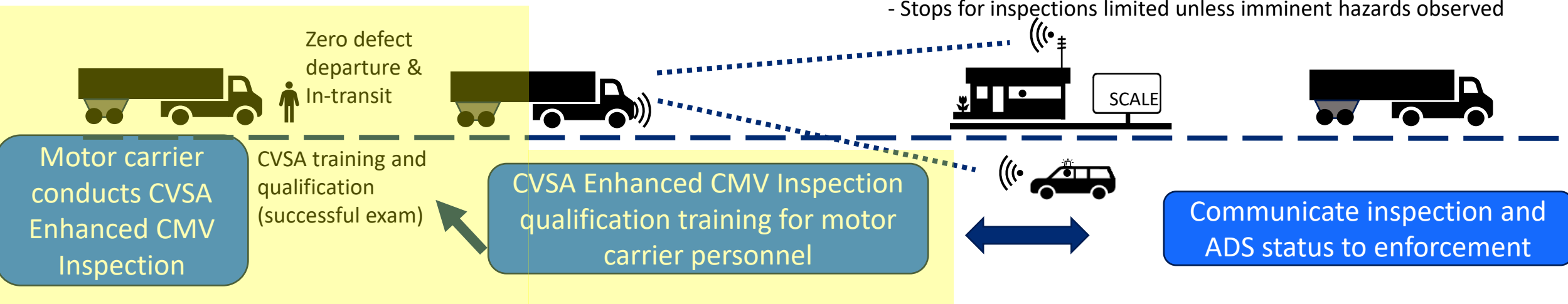


CVSA North American Standard Inspection



CVSA Enhanced CMV Inspection (for motor carrier operations)

- Method of identifying ADS trucks needed
- Stops for inspections limited unless imminent hazards observed



The image features a large, white, stylized logo for the Commercial Vehicle Safety Alliance (CVSA) centered over a blue-tinted photograph. The photograph shows the front of a white Heil truck with a Peterbilt grille, and two police officers standing nearby. The CVSA logo is composed of the letters 'CVSA' in a bold, sans-serif font, with a registered trademark symbol (®) to the right. The background image is a blue-tinted photograph of a white Heil truck with a Peterbilt grille, and two police officers standing nearby. The truck has 'HEIL' on the top and 'Peterbilt' on the grille. The officers are in uniform, and one is looking at a device. The overall scene is outdoors on a paved area with trees in the background.

CVSA®