

KHVT 0140 PM Chassis

Authors

[Bill Kleman](#), Salt Lake Community College

[Mark Kranendonk](#), Salt Lake Community College

Competencies and Learning Objectives

1. Describe correct vehicle safety inspection procedures and equipment.
 - Describe basic steps for completing a safety inspection
 - Verify registration materials
 - Describe special equipment required for safety inspections
2. Perform safety and PM inspection of tires and wheels.
 - Demonstrate safe handling procedures of truck tires
 - Identify correct tire size, tread depth, and imperfections
 - Identify correct tire rims and imperfections
 - Perform PM inspection of tires and wheels
3. Perform safety and PM inspection of steering, alignment and suspension components.
 - Describe truck steering system components, and their proper operation
 - Describe the truck components that affect alignment
 - Describe types of truck suspension systems
 - Inspect truck steering, alignment and suspension for safe operation
 - Perform PM inspection on steering, alignment and suspension
4. Perform safety and PM inspection on coupling devices.
 - Describe coupling devices related to trucks and trailers
 - Inspect coupling devices for safe operation
 - Perform PM inspection on coupling devices
5. Perform safety inspection on brakes.
 - Describe air, hydraulic and air over hydraulic brake systems
 - Inspect brake systems for safe operation

- Perform PM inspection on brakes
- 6. Perform safety and PM inspection on lighting system.
 - Describe proper lighting placement on trucks and trailers
 - Inspect light systems for safe operation
 - Perform PM inspection on lighting system
- 7. Perform safety and PM inspection on electrical systems.
 - Describe proper operation of electrical accessories
 - Inspect light systems for safe operation
 - Perform PM inspection on electrical systems
- 8. Perform safety and PM inspection on windows.
 - Inspect truck windows for safe operation
 - Inspect truck wipers for safe operation
 - Perform PM inspection on windows
- 9. Perform safety and PM inspection on truck body.
 - Describe how truck frames are designed and assembled
 - Describe how truck drivelines are utilized
 - Inspect truck frame, body, and driveline for safe operation
 - Perform PM inspection on truck body
- 10. Perform safety and PM inspection on exhaust system.
 - Inspect exhaust system for safe operation
 - Inspect exhaust system for preventative maintenance
 - Perform PM inspection on exhaust system

Course Description

This course will provide theory and practical experience in preventive maintenance, state safety inspection and servicing of heavy-duty trucks and equipment. Topics will include batteries, driveline, chassis, 5th wheel, brakes, tires and suspension. Shop safety procedures & practices will be stressed.

Competencies

Upon completion of the course, you will be rated as MC (Mastered Competency) or NM (Not-Mastered Competency) based on ability to demonstrate the established competencies for the course. You will:

- Describe correct vehicle safety inspection procedures and equipment.
- Perform safety inspection of tires and wheels.
- Perform safety inspection of steering, alignment and suspension components.
- Perform safety inspection on coupling devices.
- Perform safety inspection on brakes.
- Perform safety inspection on lighting system.
- Perform safety inspection on electrical systems.
- Perform safety inspection on windows.
- Perform safety inspection on truck body system.
- Perform safety inspection on exhaust system.
- Perform safety inspection on fuel system.
- Describe how to properly secure a load.
- Describe differences between truck and bus inspections.
- Describe correct preventative maintenance inspection procedures on class 8 semi-trucks.

Assessment

During the course you be given written and performance exams.

Written Exam 1

Written Exam 2

Shop Exam 1

You must pass with at least a score of 80% or higher on each summative assessment to be considered Master Competent and complete the course.

Course work

The course work for this class will be available partially online and partially in the lab. You will need to complete both the online and classroom portions to obtain the all of the course information.

Safety

In this course, you are expected to utilize safe behaviors and safety equipment when working around heavy duty vehicles. Safety will be evaluated in all performance exams.

Flexibility

If you feel that you are ready to do the lab final or exams without completing the course modules, please contact your instructor.

Contact and Assistance

If you need additional assistance with course material, you may consult with your instructor during open lab times.

If you have questions about coursework outside of lab hours you may contact your instructor via text/voice or email.

If you have technical issues with Internet access, computer labs, applications, BruinMail, Printing, or software, navigate the HelpDesk.

If you have technical issues with Canvas, navigate to Help.

Syllabus *(Note: Books and materials required for this course are listed below. Instructor uses instructional materials from the publisher, including presentations, videos, and other learning materials.)*

The expectations for this course are described in detail in the course syllabus.

The textbook for this course is the Fundamentals of Medium/Heavy Duty Diesel Engines, Jones & Bartlett Learning Systems, ISBN 978-1-284-06705-7.

CDX Resources -If you took KHVT-0100 course, you have already registered for access to the resources.

CDX Support

If you experience any difficulties or technical issues, call Customer Support Team at 1-844-273-7537 or send an email to cdxsupport@partnerinpublishing.com to submit an issue to Technical Support Team.

Course Navigation *(Note: Instructions for the learning management system)*

In the left navigation bar is a Course Tools menu. It provides information about what tools you need for the course, and how to navigate in Canvas. Start the course with the first module below. You can also click on the Modules link in the left navigation bar to navigate through the course.

Modules

Module 1: Safety Inspection Procedures and Equipment

Module 1: Overview

Introduction to Module 1: This module will cover safety inspection procedures and equipment. You will have access to learning materials including reading assignments and a PowerPoint presentation. Assessment of competencies in this module will take place in Written Exam 1 at the end of Module 3, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Describe correct vehicle safety inspection procedures and equipment.

1. Describe basic steps for completing a safety inspection
2. Verify registration materials
3. Describe special equipment required for safety inspections

Module 1: PowerPoint

The PowerPoint presentation below, will give you an introduction to vehicle registration, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual as you view the PowerPoint presentation.

Click the link to get started.

1. Section 1 Registration

Module 1: Readings *(Note: Instructor received permission to use the Utah Highway Patrol document in this course.)*

Reading Assignment

The purpose of these learning resources is to introduce you to vehicle registration procedures. While you are reading, think about the process involved in completing vehicle inspection. You also want to know the various safety items located on trucks. Your goal is to learn how complete a vehicle inspection in a timely manner.

You can complete the readings for this module in the Utah Safety Inspection manual. Please read the Intro and Section 1, pg 1-8 of Utah safety inspection (USI) manual.

You can also access a digital copy of the manual using the link below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 1: Check in

Now that you have completed Module 1, check in with your instructor if you have questions. If not, move on to module 2.

Module 2: Safety Inspection of Tires and Wheels

Module 2: Overview

Introduction to Module 2: This module will cover safety inspection of tires and wheels. You will have access to learning materials including reading assignments and videos. You will also complete activities online and in the shop. Assessment of competencies in this module will take place an exam at the end of Module 3, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Perform safety inspection of tires and wheels.

1. Demonstrate safe handling procedures of truck tires
2. Identify correct tire size, tread depth, and imperfections
3. Identify correct tire rims and imperfections

Module 2: PowerPoint

The PowerPoint presentation below, will give you information about safety inspections of tires and wheels, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual and your textbook as you view the PowerPoint presentation.

Click the link to get started.

1. Section 2 CDX

Module 2: Readings

Reading Assignment

The purpose of these learning resources is to learn the importance of tires and wheels relating to the safe operation of a semi-truck and trailer. While you are reading, think about tire and wheel construction and how that relates to safety. Your goal is to learn this material will be used in inspecting a truck and trailer.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 2, pg. 9-13 and your textbook CDXCV: Chapter 23 and Chapter 24. You can also access digital copies of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 2: YouTube Videos

Watch the video about service tire safety issues and maintenance.

1. <https://www.youtube.com/watch?v=294Wu6OOuW0>
2. <https://www.youtube.com/watch?v=aPELUntJjPo>
3. https://www.youtube.com/watch?v=m_LqgW1St1o

Click the links to view the videos.

Module 2: Videos

Watch the video about service tire safety issues and maintenance.

1. Chp 23 tire service safety
2. Chp 24 measure hub runout

Click the links to view the videos.

Module 2: Homework

Homework

Once you have reviewed the learning resources for this module, do the module homework questions. You may answer the questions as many times as you want. You may also use your book as a resource.

The homework questions include ASE style questions, which consist of two true/false style statements. To answer the question, evaluate technician A's statement alone to determine if it is correct, then evaluate technician B's statement alone to determine if it is correct, then make your selection based on your conclusion.

Module 2: Shop Activity 1

Now that you have completed the learning materials and homework for Module 2, check in with your instructor for information about Shop Activity 1- Stud vs. Hub Pilot Wheels.

Module 2: Shop Activity 2

Now that you have completed the learning materials and homework for Module 2, check in with your instructor for information about Shop Activity 2- Balance a Tire.

It is recommended that you review the YouTube video: Snap-on Tire Wheel Balancer before completing this shop activity.

Module 2: Shop Activity 3

Now that you have completed the learning materials and homework for Module 2, check in with your instructor for information about Shop Activity 3- Measure Tire Tread Depth.

Module 2: Check in

Now that you have completed Module 2, check in with your instructor if you have questions. If not, move on to module 3.

Module 3: Safety Inspection of Steering, Alignment and Suspension

Module 3: Overview

Introduction to Module 3: This module will cover safety inspection of steering, alignment and suspension components. You will have access to learning materials including reading assignments and videos. You will also complete activities online and in the shop. Assessment of competencies in this module will take place in an exam at the end of this module, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Perform safety inspection of steering, alignment and suspension components.

1. Describe truck steering system components, and their proper operation
2. Describe the truck components that affect alignment
3. Describe types of truck suspension systems
4. Inspect truck steering, alignment and suspension for safe steering operation

Module 3: PowerPoint

The PowerPoint presentation below, will give you information about safety inspections of steering, alignment and suspension components, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual and your textbook as you view the PowerPoint presentation.

Click the link to get started.

1. Section 3 steering

Module 3: Readings

Reading Assignment

The purpose of these learning resources is to learn how steering, alignment and suspension components relate to safety on a truck and trailer. While you are reading, think about how you would repair and inspect all of the individual components used in the steering and suspension system. Your goal is to learn how to determine if these components would pass a safety inspection.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 3, pg.14-22 and your textbook CDXCV: Chapter 25, Chapter 27 and Chapter 28. You can also access digital copies of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 3: YouTube Videos

Watch the videos about steering, alignment and suspension safety issues.

1. Benefits of alignment, and procedure
<https://www.youtube.com/watch?v=BfYPND1ATNY>
2. Beeline calibration of alignment laser bar Make a video.
 1. Beeline alignment part 1 <https://www.youtube.com/watch?v=hhE7X2mE2vs>
 2. Beeline alignment part 2 https://www.youtube.com/watch?v=UZJ_uZ3NnU
 3. Beeline alignment part 3 https://www.youtube.com/watch?v=L0UeJEB_Q2k
4. Steering gear box operation <https://www.youtube.com/watch?v=B7Ar1VxE4JU>
5. Testing Steering pump flow, Analyzer
<https://www.youtube.com/watch?v=p9D2bRsWksw>
6. TRW Steering Gear Poppet Setting and Resetting Procedure
https://www.youtube.com/watch?v=YtzzKx_c_TQ
7. King Pin repair and adjustments Stemco king pin and bushing replacement
<https://www.youtube.com/watch?v=S17x0BeA0qc>
8. Removing tie rods from spindle <https://www.youtube.com/watch?v=LDsci-izhhc>
9. Draw pins removal from king pin
https://www.youtube.com/watch?v=iR2I1YeGNT0&list=PLH4cxkbT6ZjKiaFt2bbzXsx_BDaCE6D-P&index=85
10. Greasing King pins <https://www.youtube.com/watch?v=o-e4m4CDqvs>

Module 3: CDX Videos

Watch the videos from your CDX text book about steering, alignment and suspension safety issues.

1. Chp 25 Camber
2. Chp 25 Caster
3. Chp 25 Scrub Angle
4. Chp 25 Check Lateral King Pin Wear
5. Chp 25 Check Vertical King Pin Wear
6. Chp 25 Inspecting the Tie Rod
7. Chp 25 Lubricating the King Pin
8. Chp 27 Air Springs

9. Chp 27 Leaf Spring Design
10. Chp 27 Leaf Spring
11. Chp 27 Rear Beam Suspension

Click the links to view the videos.

Module 3: Homework

Homework

Once you have reviewed the learning resources for this module, do the module homework questions. You may answer the questions as many times as you want. You may also use your book as a resource.

The homework questions include ASE style questions, which consist of two true/false style statements. To answer the question, evaluate technician A's statement alone to determine if it is correct, then evaluate technician B's statement alone to determine if it is correct, then make your selection based on your conclusion.

Module 3: Shop Activity 4

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 4- Measure king pin wear.

It is recommended that you review the CDX videos, Check Lateral Kingpin Wear and Check Vertical Kingpin Wear, before completing this shop activity.

Module 3: Shop Activity 5

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 5- Disassemble and reassemble king pin steering assembly.

It is recommended that you review the YouTube videos, Kingpin Repair and Adjustments STEMCO, Removing Tie Rods from Spindle, Draw Pins Removal from Kingpin, Greasing King Pins and the CDX video: Lubricating the Kingpin, before completing this shop activity.

Module 3: Shop Activity 6

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 6- Set wheel bearing per TMC.

It is recommended that you review the videos from the PM Brakes course before completing this shop activity.

1. Replacing drum brake pads and measuring S cam bushing wear.
[https://www.youtube.com/watch?v= MfaDypEAEM](https://www.youtube.com/watch?v=MfaDypEAEM)
2. Installing seals and bearings in axle hub, and set axle end play to .001 to .005 TMC procedure. Part 1. <https://www.youtube.com/watch?v=A8-XL4E4m7o>

3. Part 2. https://www.youtube.com/watch?v=fsxXhb_KDGU
4. Part 3. <https://www.youtube.com/watch?v=C27YAt2P2G8>
5. Checking an ASA Automatic Slack Adjuster to make sure it works as designed.
https://www.youtube.com/watch?v=60ZLWU-8e_U
6. Setting up a Haldex ASA automatic slack adjuster.
<https://www.youtube.com/watch?v=u3HRWoof0XM>

Module 3: Shop Activity 7

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 7- Use Bee Line laser alignment system to check truck alignment.

It is recommended that you review the YouTube videos, B-Line Calibration of Alignment Laser Bar (Mark is editing), B-Line Alignment Part 1, B-line Alignment Part 2, B-Line Alignment Part 3, before completing this shop activity.

Module 3: Shop Activity 8

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 8- Set tie rod adjustment on a front axle.

It is recommended that you review the video: Adjusting the Tie Rod (Mark is editing and CDX video: Inspecting the Tie Rod, before completing this shop activity.

Module 3: Shop Activity 9

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 9 - Measure axle alignment per UT state inspection manual specification.

Module 3: Shop Activity 10

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 10- Use hyd flow rater to check truck steering pump.

It is recommended that you review the YouTube video, Testing Steering Pump Flow Analyzer, before completing this shop activity.

Module 3: Shop Activity 11

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 11 - Disassemble and reassemble a steering gear box.

It is recommended that you review the YouTube videos, Steering Gear Box Operation, TRW Steering Gear Poppett Setting and Resetting Procedure, before completing this shop activity.

Module 3: Knowledge Check

Knowledge Check

Once you have reviewed the learning resources for this module, take the module quiz to see what you have learned.

The quiz includes ASE style questions, which consist of two true/false style statements. To answer the question, evaluate technician A's statement alone to determine if it is correct, then evaluate technician B's statement alone to determine if it is correct, then make your selection based on your conclusion.

Module 3: Check in

Now that you have completed Module 3, check in with your instructor for exam results and completion of the module.

Module 4: Safety Inspection of Coupling Devices

Module 4: Overview

Introduction to Module 4: This module will cover safety inspection of coupling devices. You will have access to learning materials including reading assignments and videos. You will also complete activities online and in the shop. Assessment of competencies in this module will take place an exam at the end of this module, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Perform safety inspection on coupling devices.

1. Describe coupling devices related to trucks and trailers
2. Inspect coupling devices for safe operation

Module 4: PowerPoint

The PowerPoint presentation below, will give you information about safety inspections of coupling devices, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual and your textbook as you view the PowerPoint presentation.

Click the link to get started.

1. Section 4 Coupling

Module 4: Readings

Reading Assignment

The purpose of these learning resources is to learn how the various designs of fifth wheel couplings operate. While you are reading, think about which components of a fifth wheel coupling need to be inspected for safe operation. Your goal is to learn how to repair and inspect couplings for safe operation.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 4, pg 23-28 and your textbook CDXCV: Chapter 34. You can also access digital copies of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 4: YouTube Videos

Watch the YouTube videos about safety issues related to coupling devices.

1. Fontaine coupler https://www.youtube.com/watch?v=CfEdLsJtW_s
2. Fontaine coupler rebuild and adjustment
<https://www.youtube.com/watch?v=sjRZDvj9Zgk&list=PLVNQwUIYGdrkvHo3n8v2mJ-cVnujOgZq8&index=27>
3. Holland FW35 coupler rebuild and adjustment
<https://www.youtube.com/watch?v=dQ8rdoghtYA>
4. Holland FW17 Fifth Wheel Rebuild and Lock Adjustment Procedures
https://www.youtube.com/watch?v=wYXhS_W6REY
5. HOLLAND FW8 Rebuild Procedure and Lock Adjustment Procedure
<https://www.youtube.com/watch?v=JhEXlwJwdZk>

Click the links to view the videos.

Module 4: CDX Videos

Watch the videos from your CDX textbook about safety issues related to coupling devices.

1. 5th wheel service
2. B lock 5th wheel
3. Type A 5th wheel lock
4. Checking and adjusting 5th wheel lock A
5. Check and adjust 5th wheel lock B
6. Checking king pins

Click the links to view the videos.

Module 4: Homework

Homework

Once you have reviewed the learning resources for this module, do the module homework questions. You may answer the questions as many times as you want. You may also use your book as a resource.

The homework questions include ASE style questions, which consist of two true/false style statements. To answer the question, evaluate technician A's statement alone to determine if it is correct, then evaluate technician B's statement alone to determine if it is correct, then make your selection based on your conclusion.

Module 4: Shop Activity 12

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 12- Use special tools to measure trailer king pin.

It is recommended that you review the CDX video: Checking Kingpins before completing this shop activity.

Module 4x: Shop Activity 13

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 13- Use king pin plate to test for play in 5th wheel coupling and adjust to remove excessive play.

It is recommended that you review the CDX video: 5th Wheel Service, before completing the shop activity.

Module 4: Shop Activity 14

Now that you have completed the learning materials and homework for Module 3, check in with your instructor for information about Shop Activity 14- Disassemble and reassemble two different styles of 5th wheels.

It is recommended that you review the YouTube videos: Fontaine Coupler Rebuild, Holland FW35 Rebuild, Holland FW17 Rebuild, Holland FW8 Rebuild, before completing the shop activity.

Module 4: Check in

Now that you have completed Module 4, check in with your instructor if you have questions. If not, move on to module 5.

Module 5: Safety Inspection of Brakes

Module 5: Overview

Introduction to Module 5: This module will cover safety inspection of brakes. You will have access to learning materials including reading assignments and videos. You will also complete activities online and in the shop. Assessment of competencies in this module will take place an exam at the end of this module, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Perform safety inspection on brakes.

1. Describe air, hydraulic and air over hydraulic brake systems
2. Inspect brake systems for safe operation

Module 5: PowerPoint

The PowerPoint presentation below, will give you information about safety inspections of brakes, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual and your textbook as you view the PowerPoint presentation.

Click the link to get started.

1. Section 5 Brakes

Module 5: Readings

Reading Assignment

The purpose of these learning resources is to how air and hydraulic brake systems relate to safely stopping a truck and trailer. While you are reading, think about the operation of air and hydraulic brake components. Your goal is to learn how to inspect these components as they relate to safely stopping a truck and trailer.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 5, pages 29-42 and your textbook CDXCV: Chapter 29 pages 882-893, Chapter 30 pages 926-935, Chapter 31 pages 972-989, Chapter 32 pages 1038-1047, Chapter 33 pages 1069-1097.

You can also access digital copies of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 5: YouTube Videos

Watch the videos about safety concerns related to brakes.

1. Automatic slack adjuster inspection https://www.youtube.com/watch?v=60ZLWU-8e_U

2. Testing the Tractor Protection Valve TP3
<https://www.youtube.com/watch?v=m4S8PSRAuF4>
3. Four-point air system test <https://www.youtube.com/watch?v=x2YTtvQCRaU>
4. Air brake pad, drum, ASA and air leak inspection
<https://www.youtube.com/watch?v=lzgY1gDRLOW>

Click the links to view the videos.

Module 5: CDX Videos

Watch the videos from your textbook about safety inspection topics related to air brakes.

1. Testing air Warning Devices
2. Testing for Air Leaks

Click the links to view the videos.

Module 5: Homework

Homework

Once you have reviewed the learning resources for this module, do the module homework questions. You may answer the questions as many times as you want. You may also use your book as a resource.

The homework questions include ASE style questions, which consist of two true/false style statements. To answer the question, evaluate technician A's statement alone to determine if it is correct, then evaluate technician B's statement alone to determine if it is correct, then make your selection based on your conclusion.

Module 5: Shop Activity 15

Now that you have completed the learning materials and homework for Module 5, check in with your instructor for information about Shop Activity 15- Shop do inspection on brake ends and make adjustments.

It is recommended that you review the YouTube videos: Automatic Slack Adjuster Inspection and Air Brake Pad Drum ASA and Air Leak Inspection, before completing this shop activity.

Module 5: Knowledge Check

Knowledge Check

Once you have reviewed the learning resources for this module, take the module quiz to see what you have learned.

The quiz includes ASE style questions, which consist of two true/false style statements. To answer the question, evaluate technician A's statement alone to determine if it is correct, then evaluate technician B's statement alone to determine if it is correct, then make your selection based on your conclusion.

Module 5: Written Exam 1

Once you have reviewed the learning resources for Modules 4 and 5 take Exam 2.

Testing Procedures:

1. Click Take this Quiz
2. Read each question and choose the best answer(s).
3. When you have answered all the questions, click the Submit You will be shown your score.
4. Check-in with your instructor to discuss the results of your exam.

Module 5: Check in

Now that you have completed Module 5, check in with your instructor for exam results and completion of the module.

Module 6: Safety Inspection of Lighting Systems

Module 6: Overview

Introduction to Module 6: This module will cover safety inspection of vehicle lighting systems. You will have access to learning materials including reading assignments and a PowerPoint presentation. You will also do a related shop activity in module 7. Assessment of competencies in this module will take place in Written Exam 3 at the end of Module 13, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Perform safety inspection on lighting system.

1. Describe proper lighting placement on trucks and trailers
2. Inspect light systems for safe operation

Module 6: PowerPoint

The PowerPoint presentation below, will give you an introduction to vehicle lighting systems, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual and your textbook as you view the PowerPoint presentation.

Click the link to get started.

1. Section 6 Vehicle Lighting

Module 6: Readings

Reading Assignment

The purpose of these learning resources is to introduce you to the lighting on trucks and trailers. While you are reading, think about safety lighting requirements. Your goal is to learn how to inspect truck and trailer lighting systems with regard to federal requirements.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 6, pages 43-46, the Federal Requirements for Reflective Markers PDF, and your textbook CDXCV: Chapter 17 pages 490-502.

You can also access digital copies of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 6: Videos

Watch the videos from your CDX textbook about lighting on trucks and trailers.

1. Checking and Replacing Headlight
2. Headlight Design and Operation
3. Hi and Low Beam Operation
4. Parking Light Circuit
5. Reverse lights

Click the links to view the videos.

Module 6: Animations

Try out the animation from your CDX text related to lighting circuits.

1. Lighting Operation Test Light Testing

Click the link to view the animation.

Module 6: Homework

Homework

Once you have reviewed the learning resources for this module, do the module homework questions. You may answer the questions as many times as you want. You may also use your book as a resource.

The homework questions include ASE style questions, which consist of two true/false style statements. To answer the question, evaluate technician A's statement alone to determine if it is correct, then evaluate technician B's statement alone to determine if it is correct, then make your selection based on your conclusion.

Module 6: Check in

Now that you have completed Module 6, check in with your instructor if you have questions. If not, move on to module 7.

Module 7: Safety Inspection of Electrical Systems

Module 7: Overview

Introduction to Module 7: This module will cover safety inspection of vehicle electrical systems. You will have access to learning materials including reading assignments and a PowerPoint presentation. You will also complete activities online and in the shop. Assessment of competencies in this module will take place in an exam at the end of Module 13, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Perform safety inspection on electrical systems.

1. Describe proper operation of electrical accessories
2. Inspect electrical accessories for safe operation

Module 7: PowerPoint

The PowerPoint presentation below, will give you information about safety inspections of vehicle electrical systems, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual and your textbook as you view the PowerPoint presentation.

Click the link to get started.

1. Section 7 Electrical

Module 7: Readings

Reading Assignment

The purpose of these learning resources is to introduce you to the electrical components that affect the safe operation of a truck and trailer. While you are reading think about how you would inspect each electrical component as it relates to truck and trailer safety. Your goal is to learn how each electrical component should be inspected when doing a safety inspection.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 7, pages 47-48, and your textbook CDXCV: Chapter 11 pages 335-340, Chapter 14 pages 394-399.

You can also access digital copies of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 7: Shop Activity 16

Now that you have completed the learning materials for Module 7, check in with your instructor for information about Shop Activity 16- Overview of lights and electrical system inspections.

Module 7: Check in

Now that you have completed Module 7, check in with your instructor if you have questions. If not, move on to module 8.

Module 8: Safety Inspection of Windows

Module 8: Overview

Introduction to Module 8: This module will cover safety inspection of vehicle windows. You will have access to learning materials including reading assignments and a PowerPoint presentation. You will also complete activities online and in the shop. Assessment of competencies in this module will take place in an exam at the end of Module 13, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Perform safety inspection on windows.

1. Inspect truck windows for safe operation
2. Inspect truck wipers for safe operation

Module 8: PowerPoint

The PowerPoint presentation below, will give you information about safety inspections of vehicle electrical systems, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual and your textbook as you view the PowerPoint presentation.

Click the link to get started.

1. Section 8 windows

Module 8: Readings

Reading Assignment

The purpose of these learning resources is to understand how the windows in a truck relate to safety. While you are reading think about how to efficiently inspect the windows in a truck. Your goal is to learn when a truck's windows do not meet federal safety requirements.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 8, pages 49-51.

You can also access a digital copy of the readings using the link below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 8: Shop Activity 17

Now that you have completed the learning materials for Module 8, check in with your instructor for information about Shop Activity 17- Overview of window inspection.

Module 8: Check in

Now that you have completed Module 8, check in with your instructor if you have questions. If not, move on to module 9.

Module 9: Safety Inspection of Truck Body System

Module 9: Overview

Introduction to Module 9: This module will cover safety inspection of truck body systems. You will have access to learning materials including reading assignments and videos. You will also complete activities online and in the shop. Assessment of competencies in this module will take place in an exam at the end of this Module 13, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Perform safety inspection on truck body system.

1. Inspect Truck body system for safe operation

Module 9: PowerPoint

The PowerPoint presentation below, will give you information about safety inspections of truck body systems, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual and your textbook as you view the PowerPoint presentation.

Click the link to get started.

1. Section 9 Body

Module 9: Readings

Reading Assignment

The purpose of these learning resources is to understand what components of a truck and trailer should be inspected for safe operation. While you are reading, think about how you would effectively inspect the various body components of a truck and trailer. Your goal is to learn what body items would be rejected when completing a safety inspection.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 9, pages 52-55, and your textbook CDXCV: Chapter 26 and Chapter 46. You can also access digital copies of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 9: Videos

Watch the videos about safety issues related to coupling devices.

1. Driveline Phasing <https://www.youtube.com/watch?v=DDmz0tibVGM>
2. Measuring driveline angles <https://www.youtube.com/watch?v=uROXkTVNvHM>
3. Measuring and calculating driveline angles <https://www.youtube.com/watch?v=KZ-m9ov3wYM>
4. Disassembly and assembly of driveling yokes Tiger Tool 10102 Heavy Duty Universal Joint Puller <https://www.youtube.com/watch?v=NUA3MFRB9UU>
5. 10201 - Tiger Tool Bearing Cup Installer <https://www.youtube.com/watch?v=awKHDE6TA9c>
6. 10217 - Tiger Tool SPL Bearing Cup Installer https://www.youtube.com/watch?v=bXX3V_4WjPs
7. Working on the Frame

Click the links to view the videos.

Module 9: Homework

Homework

Once you have reviewed the learning resources for this module, do the module homework questions. You may answer the questions as many times as you want. You may also use your book as a resource.

The homework questions include ASE style questions, which consist of two true/false style statements. To answer the question, evaluate technician A's statement alone to determine if it is correct, then evaluate technician B's statement alone to determine if it is correct, then make your selection based on your conclusion.

Module 9: Shop Activity 18

Now that you have completed the learning materials and homework for Module, check in with your instructor for information about Shop Activity 18- Remove and install driveline using Tiger tool. (You may want to review videos 4, 5, and 6 from this module before starting this shop activity.)

Module 9: Shop Activity 19

Now that you have completed the learning materials and homework for Module 9, check in with your instructor for information about Shop Activity 19- Measure driveline angle on a truck chassis driveline. (You may want to review videos 2 and 3 from this module before starting this shop activity.)

Module 9: Check in

Now that you have completed Module 9, check in with your instructor if you have questions. If not, move on to module 10.

Module 10: Safety Inspection of Exhaust Systems

Module 10: Overview

Introduction to Module 10: This module will cover safety inspection of vehicle exhaust systems. You will have access to learning materials including reading assignments and a PowerPoint presentation. Assessment of competencies in this module will take place in Written Exam 3 at the end of Module 13, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Perform safety inspection on exhaust system.

1. Inspect exhaust system for safe operation

Module 10: PowerPoint

The PowerPoint presentation below, will give you an introduction to vehicle exhaust systems, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual as you view the PowerPoint presentation.

Click the link to get started.

1. Section 10 Exhaust

Module 10: Readings

Reading Assignment

The purpose of these learning resources is to introduce you to vehicle exhaust systems. While you are reading, think about what components of a truck's exhaust system that need inspecting for safe operation. Your goal is to learn how to efficiently inspect all exhaust components on a truck.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 10, pages 56-57.

You can also access a digital copy of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 10: Check in

Now that you have completed Module 10, check in with your instructor if you have questions. If not, move on to module 11.

Module 11: Safety Inspection of Fuel Systems

Module 11: Overview

Introduction to Module 11: This module will cover safety inspection of vehicle fuel systems. You will have access to learning materials including reading assignments and a PowerPoint presentation. Assessment of competencies in this module will take place in Written Exam 3 at the end of Module 13, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Perform safety inspection on fuel system.

1. Inspect fuel system for safe operation

Module 11: PowerPoint

The PowerPoint presentation below, will give you an introduction to vehicle exhaust systems, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual as you view the PowerPoint presentation.

Click the link to get started.

1. Section 11 fuel

Module 11: Readings

Reading Assignment

The purpose of these learning resources is to introduce you to vehicle fuel systems. While you are reading, think about what fuel system components relate to the safe operation of a truck. Your goal is to learn how to effectively inspect the various components of a truck's fuel system as it relates to the safe operation of a truck.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 11, pages 58-65.

You can also access a digital copy of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 11: Check in

Now that you have completed Module 11, check in with your instructor if you have questions. If not, move on to module 12.

Module 12: Properly Securing a Load

Module 12: Overview

Introduction to Module 12: This module will cover how to determine if a load is properly secured. You will have access to learning materials including reading assignments and a PowerPoint presentation. Assessment of competencies in this module will take place in Written Exam 3 at the end of Module 13, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Describe how to properly secure a load.

1. Describe proper way to secure a load

Module 12: PowerPoint

The PowerPoint presentation below, will give you an introduction on to how to determine if a load is properly secured, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual as you view the PowerPoint presentation.

Click the link to get started.

1. Section 12 safe loading

Module 12: Readings

Reading Assignment

The purpose of these learning resources is to introduce you to safe loading of a trailer. You will also learn about intermodal trailers. While you are reading, think about which items need to be inspected to insure items are safely secured to a trailer. Your goal is to learn how effectively inspect those items on a trailer as it relates to the safe loading and hauling of cargo.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 12, page 66.

You can also access a digital copy of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 12: Check in

Now that you have completed Module 12, check in with your instructor if you have questions. If not, move on to module 13.

Module 13: Differences Between Trucks and Busses

Module 13: Overview

Introduction to Module 13: This module will cover safety inspection of a school bus. You will have access to learning materials including reading assignments and videos. You will also complete activities online and in the shop. Assessment of competencies in this module will take place in an exam at the end of this module, and a performance exam at the end of Module 14.

The course work in this module, combined with class sessions should prepare you to:

Describe differences between truck and bus inspections.

1. Describe inspection procedures specific to busses, trucks and trailers

Module 13: PowerPoint

The PowerPoint presentation below, will give you information about the differences between busses, trucks and trailers, with additional notes from your instructor. It may be helpful to do the module readings in the Utah Safety Inspection manual and your textbook as you view the PowerPoint presentation.

Click the link to get started.

1. Section 13 School Bus

Module 13: Readings

Reading Assignment

The purpose of these learning resources is to introduce you to the components that need to be inspected on a bus. While you are reading, think about how bus inspections are different from truck safety inspections. Your goal is to learn how to efficiently inspect a bus as it relates to safety for the bus occupants.

You can complete the readings for this module in the Utah Safety Inspection Manual, Section 13, pages 67-70.

You can also access a digital copy of the readings using the links below.

<https://highwaypatrol.utah.gov/wp-content/uploads/sites/21/2015/03/2011-2012-SI-PLT-Manual.pdf>

Module 13: Videos

Watch the videos about steering, alignment and suspension safety issues.

1. Semi Truck and trailer Pre-trip inspection
<https://www.youtube.com/watch?v=EfW615ZnELE&t=353s>
2. School Bus Pre-Trip Inspection <https://www.youtube.com/watch?v=e3TtHikigfA>

Click the links to view the videos.

Module 13: Shop Activity 20

Now that you have completed the learning materials and homework for Module 13, check in with your instructor for information about Shop Activity 20- Complete safety inspection of a semi-truck.

Module 13: Knowledge Check

Knowledge Check

Once you have reviewed the learning resources for modules 6-13, take the module quiz to see what you have learned.

The quiz includes ASE style questions, which consist of two true/false style statements. To answer the question, evaluate technician A's statement alone to determine if it is correct, then evaluate technician B's statement alone to determine if it is correct, then make your selection based on your conclusion.

Module 13: Written Exam 2

Once you have reviewed the learning resources for Modules 6-13, take the Exam 3.

Testing Procedures:

Click Take this Quiz

Read each question and choose the best answer(s).

When you have answered all the questions, click the Submit You will be shown your score.

Check-in with your instructor to discuss the results of your exam.

Module 13: Check in

Now that you have completed Modules 1-13, check in with your instructor for exam results and completion of the module.