














Automotive Engines

Chapter 6 Vehicle Lifting & Hoisting

Opening Your Class

KEY ELEMENT	EXAMPLES
Introduce Content	This engine systems course or class provides complete coverage of the components, operation, design, and troubleshooting. It correlates material to task lists specified by ASE and NATEF and emphasizes a problem-solving approach. Chapter features include Tech Tips, Frequently Asked Questions, Real World Fixes, Videos, Animations, and NATEF Task Sheet references.
Motivate Learners	Explain how the knowledge of how something works translates into the ability to use that knowledge to figure why the engine does not work correctly and how this saves diagnosis time, which translates into more money.
State the learning objectives for the chapter or course you are about to cover and explain this is what they should be able to do as a result of attending this session or class.	Explain the chapter learning objectives to the students. <ol style="list-style-type: none">1. Identify vehicle hoisting and lifting equipment.2. Discuss safety procedures related to hoisting or lifting a vehicle.3. Describe the proper methods to follow to safely hoist a vehicle.
Establish the Mood or Climate	Provide a WELCOME , Avoid put downs and bad jokes.
Complete Essentials	Restrooms, breaks, registration, tests, etc.
Clarify and Establish Knowledge Base	Do a round robin of the class by going around the room and having each student give their backgrounds, years of experience, family, hobbies, career goals, or anything they want to share.

ICONS	Chapter 6 Vehicle Lifting & Hoisting
      	<p>1. SLIDE 1 Chapter 6 Vehicle Lifting & Hoisting</p> <p>Check for ADDITIONAL VIDEOS & ANIMATIONS @ http://www.jameshalderman.com/ WEB SITE IS CONSTANTLY UPDATED</p> <p>2. SLIDES 2-3 EXPLAIN OBJECTIVES & KEY TERMS</p> <p>4. SLIDE 4 EXPLAIN Floor Jack & EXPLAIN FIGURE 6-1 hydraulic hand-operated floor jack.</p> <p>5. SLIDE 5 EXPLAIN FIGURE 6-2 Safety stands are being used to support the rear of this vehicle. Notice a creeper also</p> <p><u>DEMONSTRATE USE OF A FLOOR JACK</u></p> <p>6. SLIDES 6 EXPLAIN Creepers</p> <p>7. SLIDES 7-8 EXPLAIN Vehicle Hoists</p> <p>9. SLIDE 9 EXPLAIN FIGURE 6-3 Most newer vehicles have a triangle symbol indicating the recommended hoisting lift points.</p> <p>10. SLIDE 10 EXPLAIN FIGURE 6-4 (a) Tall safety stands can be used to provide additional support for a vehicle while on a hoist. (b) EXPLAIN block of wood should be used to avoid the possibility of doing damage to components supported by the stand.</p> <p>11. SLIDE 11 EXPLAIN FIGURE 6-5 This training vehicle fell from the hoist when the pads were not set correctly. No one was hurt, but the vehicle was damaged.</p> <p>12. SLIDE 12 EXPLAIN FIGURE 6-6 (a) assortment of hoist pad adapters that are often necessary to safely hoist many pickup trucks, vans, and sport utility vehicles. (b) view from underneath a Chevrolet pickup truck showing how the pad extensions are used to attach the hoist lifting pad to contact the frame.</p> <p>13. SLIDE 13 EXPLAIN FIGURE 6-7 (a) In this photo pad arm is just contacting the rocker panel of the vehicle. (b) This photo shows what can occur if the technician places</p>

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     	<p>the pad too far inward underneath the vehicle. The arm of the hoist has dented in the rocket panel.</p> <p>14. SLIDES 14-15 EXPLAIN Vehicle Hoists <u>HOLD DISCUSSION ON SETTING UP LIFT</u></p> <p><u>DEMONSTRATE HOW TO SET THE LIFT PADS</u></p> <p>16. SLIDE 16 EXPLAIN Drive-On Ramps & EXPLAIN FIGURE 6-8 Drive-on-type ramps. Wheels on ground level must be chocked (blocked) to prevent accidental movement down ramp.</p> <p>HAVE STUDENTS COMPLETE LIFTING VEHICLE TASK SHEET</p> <p>Talk through SUMMARY and questions</p> <p><u>HOMEWORK: COMPLETE CH6 CROSSWORD PUZZLE:</u> <u>HTTP://WWW.JAMESHALDERMAN.COM/LINKS/BOOK_ENGINE_THEORY_SERV_7/CW/CROSSWORD_CH_6.PDF</u></p>