

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 data-bbox="625 302 1284 384">1. SLIDE 1 Chapter 6 Vehicle Lifting & Hoisting</p> <p data-bbox="586 436 1390 552">Check for ADDITIONAL VIDEOS & ANIMATIONS @ http://www.jameshalderman.com/ WEB SITE IS CONSTANTLY UPDATED</p> <p data-bbox="625 577 1414 606">2. SLIDES 2-3 EXPLAIN OBJECTIVES & KEY TERMS</p> <p data-bbox="625 621 1398 688">4. SLIDE 4 EXPLAIN Floor Jack & EXPLAIN FIGURE 6-1 hydraulic hand-operated floor jack.</p> <p data-bbox="625 703 1354 806">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 data-bbox="586 814 1198 844"><u>DEMONSTRATE USE OF A FLOOR JACK</u></p> <p data-bbox="625 961 1076 991">6. SLIDES 6 EXPLAIN Creepers</p> <p data-bbox="625 1100 1174 1129">7. SLIDES 7-8 EXPLAIN Vehicle Hoists</p> <p data-bbox="625 1144 1390 1247">9. SLIDE 9 EXPLAIN FIGURE 6-3 Most newer vehicles have a triangle symbol indicating the recommended hoisting lift points.</p> <p data-bbox="625 1262 1390 1440">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 data-bbox="625 1455 1414 1558">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 data-bbox="625 1572 1414 1782">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 data-bbox="625 1797 1414 1900">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>