

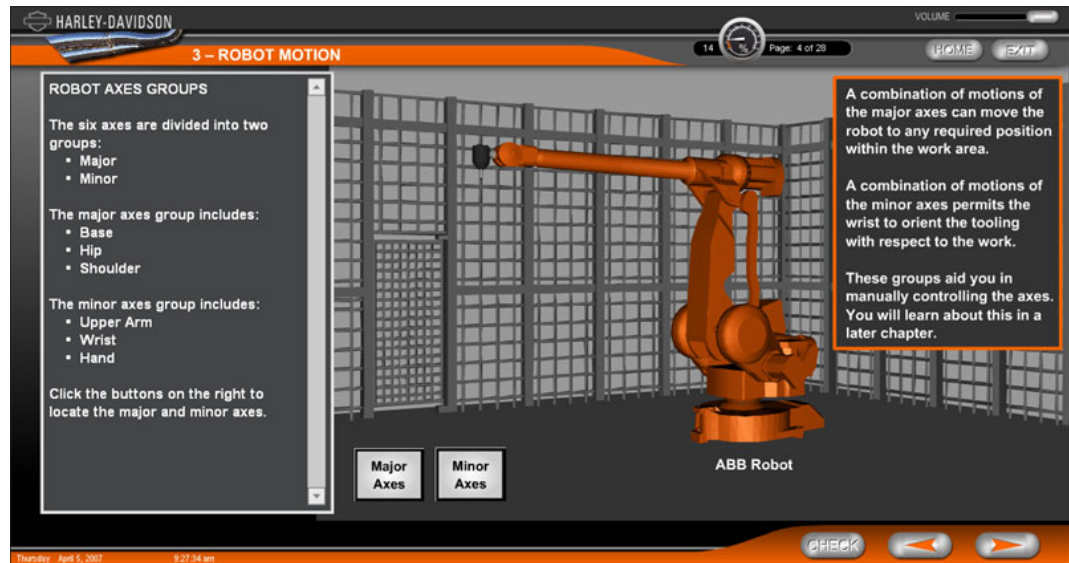


Award-Winning Custom Content 2007

*Descriptions and Excerpts of Online
Courses from the Brandon Hall
Excellence in Learning Awards*



"The ABB Robot Operator Training for Harley-Davidson Motor Company" (Harley-Davidson Motor Company & Oxygen Education LLC)



This entry won a bronze medal in the 2007 Brandon Hall Excellence in Learning Awards.

Link to view the excerpt

<http://www.brandonhallawards.com/07/wnnrs/index.htm#15>

Username: ccwinners7

Password: bestcourses

Format: Flash

File size: 22 MB

Description

This course represents a joint venture between Harley-Davidson Motor Company® and Indianapolis-based Oxygen Education®. Together, they designed and developed a course on the ABB (Asea Brown Boveri) computer-controlled, seven axis robot. ABB robots are prevalent in many of the machining, fabrication, painting, and assembly areas of Harley-Davidson®. These robot systems are among the most complex of machine tools, requiring extensive training in their use and operation. The automated nature of robot systems creates an inherent safety issue.



Robots can move without warning, creating a potential for injury to the operator and the equipment. The goal of this course is to guarantee a foundational understanding of the purpose, functionality, and safe operation of the ABB robot. With this in mind, the course was created to ensure the following specific outcomes:

- To enable the Harley-Davidson employee to safely perform basic to intermediate robot operations.
- To enable the student to safely restart the robot after a fault. When faults occur, the robot must be manipulated manually and returned to a safe restart condition.
- To deliver consistent technical training to each student.
- To create a cost-effective method of training delivery that did not require the use of expensive capital equipment.

Course Design

There are three other important design features of this course:

- It is designed to engage the student through the frequent use of interactive 3-D simulations and exercises.
- It is designed to minimize the reading requirement and teach the student, not through words, but, rather, through the interactive components of the course.
- This is a self-paced course that ensures the student has the time required to fully understand a complex device. Technical training is about “Mastery of Skills,” not time spent in a classroom.

This course is intentionally segregated into two parts:

- Chapters 1 through 5 are designed to introduce the form, function, and purpose of all of the components of the robot and its control systems.
- Chapters 6 through 8 are designed as virtual “hands-on” exercises in how to operate the robot.

Separation of form, fit, and function from operation is a critical component in the success of this type of technical training. By separating the two, the student is not overwhelmed with too much information. In traditional on-the-job training, the student is attempting to memorize buttons, switches, and combinations at the same time they are seeing the equipment react to their input. In this course, when the student performs the operational tasks in section two, they are able to focus upon applying the knowledge they acquired in section one. This methodology ensures that the student has a concise understanding of the device before actual operation. Section two is also available to the student as a long-term task reference guide.



Assessment Driven Learning

This course is built with assessment tests at the end of each chapter. The main menu navigation is controlled by the students' exam scores. Students cannot progress to the next chapter without scoring a minimum of 80 percent on the chapter exam. The company also kept operators who already possess the appropriate skills in mind, by allowing them to test out of chapters once they demonstrated their proficiency. The reviewers of this course are granted "demo" access, which allows them to navigate freely without the requirement of passing chapter assessments.

Overuse of 3-D Animations

The overuse of 3-D animations and simulations has proven successful in terms of the students' knowledge gains, course completion rates, and positive feedback in terms of the overall learning experience. Harley-Davidson Motor Company® continually strives to advance their manufacturing technologies. This presents a challenge in maintaining and delivering technical training to their employees. To meet this challenge, this e-learning solution was developed. Now, its ever-growing family of e-learning courses supports the Harley-Davidson Motor Company® workforce at each of its five production sites.

Results

Measurable business results from implementing this course include the following:

- > Average increase in employee knowledge of 143 percent.
- > Average reduction in course delivery time is 82.5 percent.
- > Total per student savings of \$2,436 in labor when compared to current training methods.
- > Highly positive and enthusiastic reaction from the course participants.
- > The equivalent of 40 hours of classroom training was delivered in seven hours.
- > Confirmation that highly technical training can be successfully delivered in an e-learning format.

This course continues to validate that applying e-learning for technical training within the Harley-Davidson organization has had a profound impact upon its manufacturing facilities.

Intended audience

The primary audience for this course is diverse and includes the following employees:

- > Newly hired, unskilled machine operators
- > Incumbent machine operators
- > Production supervisors
- > Engineering staff