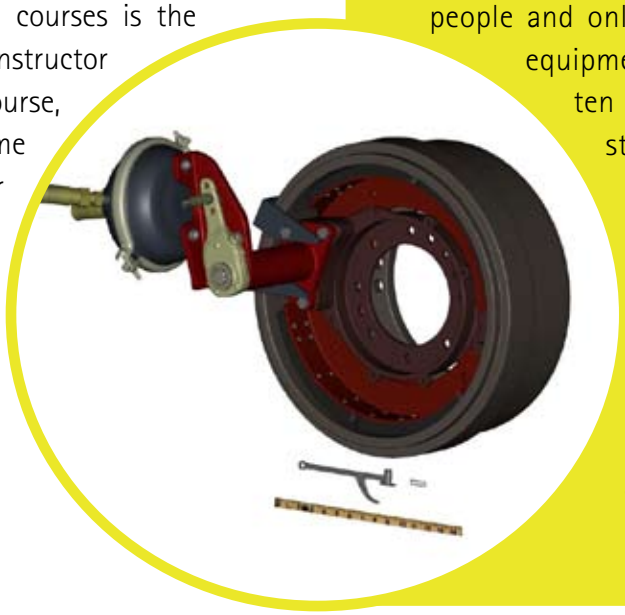
IMPROVING AIR BRAKES TRAINING WITH VIRTUAL TASK TRAINERS

BACKGROUND

At the Canadian Forces School of Administration and Logistics (CFSAL) more than 4,000 Army, Air Force and Navy personnel are trained each year across multiple disciplines including officer training, logistics, human resources, food services, ammunition identification, supply chain management and transportation.

One of the key transportation courses is the CFSAL Air Brake Systems Instructor Course. In this two-week course, students are trained to become instructors who will teach air brakes operations and maintenance at their home bases across Canada and abroad.



CHALLENGE

Providing a detailed overview of the complex air brakes system of a transportation vehicle can be an overwhelming task for instructors and students alike if left to charts and diagrams. At CFSAL, instructors rely on visual aids to ensure the class can visualize the different parts and learn adjustment procedures however with class sizes reaching 30 people and only one hard trainer, access to equipment is limited. Instructors often work long hours to ensure students can practice on equipment in the evenings and as a result are taxed for time to develop new courseware and perform evaluations. Students can also become frustrated by the limited access to equipment during and after class hours.

> “Extending the training environment beyond our hard trainers and outside of the classroom isn't a "nice to have." It's a necessity to increasing our operational tempo.”
>
> *– Major Steven White, CFSAL*

CASE STUDY

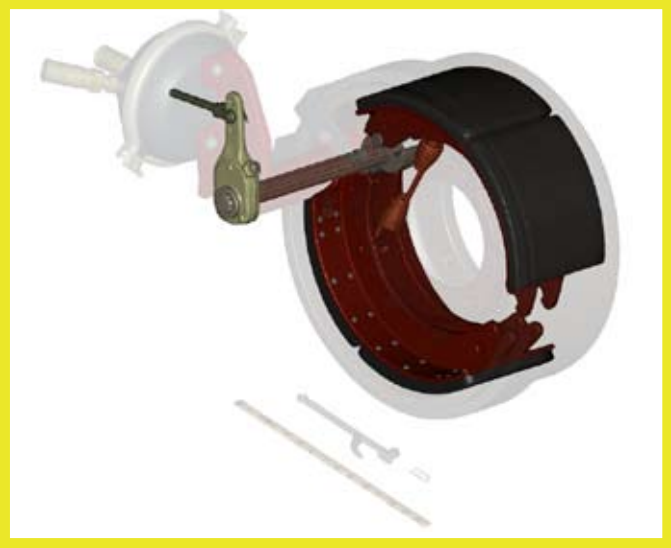
SOLUTION

To increase each student's ability to understand the components of the air brakes system and to supplement hands-on experience, CFSAL has decided to integrate 3D simulations into the classroom. Using a Virtual Task Trainer™ (VTT™) from NGRAIN, CFSAL instructors will be able to give students a tool enabling them to examine the different parts of the air brakes system in detail and from multiple angles. In addition to rotating the 3D models, students can freely cross section and isolate parts to understand their interrelationship and functionality. The Air Brakes VTT will include interactive animations of procedures including how to adjust air brakes under a variety of road conditions.

With the ability to access the VTT on Microsoft® Windows-based computing platforms, students can review information outside of the classroom and at their own pace. Students become familiar with the equipment and maintenance procedures prior to accessing the hard trainer increasing knowledge retention and first-time-right performance – making time spent on the hard trainer more efficient. To help streamline student evaluation and provide real-time feedback, the VTT includes automated performance feedback so that instructors have the opportunity to coach and course correct as needed.

RESULTS

Instructors at CFSAL will use the Air Brakes Virtual Task Trainer from NGRAIN to enhance the training environment by creating a visual learning platform for students prior to accessing a hard trainer. Students will have access to the interactive 3D simulations both in and out of the classroom ultimately enhancing traditional teaching methods with visual and kinesthetic learning. The course will improve knowledge transfer of the air brakes system and increase classroom throughput. These graduates will then teach the basic Air Brakes Operators course at locations across Canada using the same Air Brakes Virtual Task Trainer that they used. This will proliferate enhanced learning for thousands of students, improved job performance and reduced classroom time both on the airbrakes instructor course as well as at bases across Canada.



"The Virtual Task Trainer will change our classroom environment from a traditional teaching environment to one that fosters learning in a positive, coaching environment. We expect to create a positive and interactive learning atmosphere so that our students are confident in their knowledge and instructors can maximize their time with students."

– Commandant of CFSAL, LCol Bob Chaloux