Introducing Virtual Training into Aviation Maintenance

By SFC Matthew Harris

The 128th Aviation Brigade must focus on developing and implementing advanced technology training devices across all rotary wing airframes to remain relevant and improve the quality of training.

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Soldiers now train in virtual reality – practice makes perfect!

Incorporation of virtual training across all the Brigade's Programs of Instruction (POI) will enable the organization to train more Soldiers, and train them faster. The 128th Aviation Brigade continues to work with program managers and members of the Aviation industry to plan for, develop and resource virtual training devices in order to effectively educate aircraft maintainers utilizing the adult learning model.

One of the ways the Brigade is currently using virtual training is the Virtual Interactive Environment (VIE) in the 15F Aircraft Electrician courses. The VIE is a computer-based system that can be configured to support classroom instruction, as well as maintenance training exercises in conjunction with a full mock-up aircraft training device. These devices enable instructors to provide lecture type instruction while simultaneously delivering visual concepts that demonstrate aircraft system theory and capability more comprehensively. Under instructor-controlled and self-paced training, individual trainees can cover systems location, descriptions, theory of operations, maintenance operational checks (MOC), simulated fault isolation procedures (FIP), and component removal / reinstallation tasks.

Throughout MOCs troubleshooting, and FIPs, this device can be used to enhance learning and enforce proper maintenance procedures in a controlled environment. Visual demonstration of how systems interact such as engine fuel and airflow or hydraulic systems and flight control functions, provides a clearer understanding when performing maintenance on actual hardware components. Thus, reinforcing a Soldier's ability to conduct research and seek the answers to their own questions, increasing their technical knowledge and knowledge retention. This device is not designed to take away from hands on training, it is meant to supplement training and increase overall knowledge. Instructors can use these devices to impart a deeper lever of understanding. These devices are also used for students attending Advanced Leaders Course. These devices have quick search capabilities and are excellent for refresher training for Soldiers at all levels.

Since these programs are computer-based, it is considerably less expensive than purchasing traditional simulated aircraft trainers. While each trainer is physically identical, the media can be designed for a specific aircraft system or interchangeable. When updates are required, the virtual trainer can be updated as a simple download of the new information, while other training devices might have to be transferred to the manufacturer. This once again shows the benefits of virtual training devices by limiting downtime for upgrades in comparison to individualized "mock-up" training devices.

Overall, virtual training provides an exceptional tool in the education and training of our aviation maintainers. When used to its full potential in conjunction with hands on training, higher qualified aircraft maintainers will be produced. It allows for better training to be accomplished faster, without sacrificing quality or standards. Additionally, once integrated into the POI there is a potential for cost reduction through decreased course lengths and constant wear on components. Just like any other tool, it's only as good as the individuals using it. The instructors across the 128th Aviation Brigade are some of the best NCOs in Army Aviation and they work every day to train and develop the future maintainers and leaders of our branch. Virtual training will ensure that before heading to their first duties stations around the globe, the aviation maintainers that graduate are knowledgeable, safety conscious, and capable.

SFC Matthew W. Harris is a 15K assigned to the 128th Aviation Brigade. Currently works as a training developer in the Systems Integration Division (SID) at Joint Base Langley-Eustis, VA.