F-35 Maintenance Training – Innovation in Learning

F-35 Maintenance Training is a 5th Generation training system providing both high-fidelity virtual training for core tasks and hands-on training using to-scale F-35 mock-ups made of composite material for affordability. Innovative technologies have enabled a more immersive training experience, enabling majority of initial qualification training to be completed virtually. A family of hands-on maintenance training devices enable applied learning for tasks like maintenance on the landing gear, loading weapons, servicing the ejection seat and more.

Aircraft Systems Maintenance Trainer
The ASMT is a virtual environment used in a classroom setting and at the unit level, immersing technicians in all F-35 maintenance tasks using real joint technical data to support training scenarios. This trainer uses a virtual environment to teach diagnostic principles, maintenance tasks, location of line-replaceable components and proper use of the ALIS portable maintenance aid. Instructors are provided a dedicated operating interface enabling capabilities including lesson assignments, student progress monitoring, automatic grading, intercoms, and video switching. The instructor operating station controls and supports up to 12 student stations. While the ASMT has trained thousands of maintainers in F-35 training centers, the system can be utilized at the squadron level for refresher training.

Weapons Loading Trainer
The WLT is used to train loading and unloading internal and external weapons. The WLT features a high-fidelity representation of the F-35 weapons bay, a functional representation of the maintenance interface panel, and the wing sections that include external weapon hard points.

Landing Gear Maintenance Trainer
The LGMT provides hands-on training for removal and installation of main landing gear components, namely the shock strut, wheel and tire assembly, brake and down lock actuator. In order to train these tasks, the main landing gear bay is represented with high fidelity in addition to a weapons bay providing access to the inboard trunnions.

Ejection System Maintenance Trainer
The ESMT features a cockpit with movable and removable components, providing a realistic environment for learning to conduct ejection seat maintenance, and seat/canopy installation. This system’s fidelity enables pilots and maintainers to perform ingress and egress training and can be modified to perform engine run training.

Integrated Power Package Maintenance Trainer
The IPPMT provides a high-fidelity representation of the Integrated Power Package bay, enabling training for all pre- and post-flight IPP maintenance procedures, including install and removal of the IPP using F-35 aircraft support equipment. The IPPMT is a compact trainer that provides hands-on experience working in the confined IPP space.

Engine Lift Fan Removal and Install Trainer
The ELFRIT is available in single- and multi-variant configurations, allowing for complete and immersive training for removal and installation of the F-35’s engine and lift fan.