



VR-MOTION 200.

Air-to-Air Refueling -Training Environment.

Air-to-Air Refueling is an essential capability that increases the range, endurance, payload and flexibility of all capable receiver aircraft, and is especially important when forward basing is limited or unavailable.

Besides having a proper qualified and trained tanker crew and boom-operator, each pilot of a receiving aircraft needs to master all the tactical formation flying rules and the tactical communication around it.

The BRUNNER VR-Motion 200 Air-to-Air Refueling Training Environment utilizes one or multiple networked VR-Motion 200 Virtual Reality Flight Simulators to represent a wide spectrum of tactical scenarios and mission roles around the Air-to-Air Refueling spectrum of tasks and processes.





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Problem addressed

Air-to-Air Refueling is the process of transferring aviation fuel from one military aircraft (the tanker) to another (the receiver) during flight.

The two main refuelling systems are probe-and-drogue, which is simpler to adapt to existing aircraft, and the flying boom, which offers faster fuel transfer, but requires a dedicated boom operator station at the tanker aircraft.

Use-Case

Both groups of trainees, Boom Operators in the tanker aircraft as well as pilots of the receiving aircrafts, need to be perfectly trained for the air-to-air refuelling procedure. This training is performed in live-flying exercises and in specialized Boom-Operator Training Systems and Full-Flight-Simulators.

Solution Provided

The BRUNNER VR-Motion 200 Air-to-Air Refueling Training Environment utilizes one or multiple networked VR-Motion 200 Virtual Reality Flight Simulators to represent a wide spectrum of tactical scenarios and mission roles around the Air-to-Air Refueling processes. BRUNNER VR-Motion 200 allows role-play for multiple trainees to act as a formation of receiving jet aircrafts, while one or two boom operators utilize the VR-Motion 200 Virtual Reality environment and their typical boom operator controls to practice their tasks together with the pilot trainees. The fully immersive mission environment is based on VBS BLUE IG and VBS3.

All mission relevant information will be provided via the virtual reality helmet carried by the trainee on the dynamic motion platform. Supported by real or virtual instructor guidance and tactical team radio, the trainee gets introduced into the various mission phases and performs the training exercise individually or as part of a crew exercise.

Besides having a proper qualified and trained tanker crew and boom-operator, each pilot of a receiving aircraft needs to master all the tactical formation flying rules and the tactical communication around it. On top, the procedures of leaving a defined formation and reaching the tanker aircraft for the refueling rendezvous in time and to perform the air-to-air refueling maneuver error-free during first attempt is crucial for the overall mission safety and success.

In both cases, the effort is very high and the availability of an appropriate Training System is limited.

This leads to a demand for additional and flexible training capabilities, allowing focused individual and team training for Air-to-Air Refueling.

