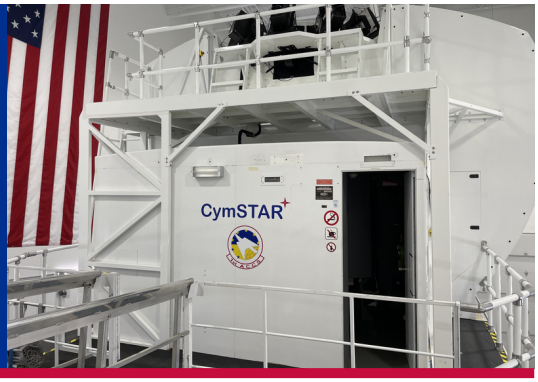
Lm2 Cutting Edge Motion Cueing Technology

Because the best aviators deserve the best training.



Overview

Manual flying skills are crucial in the safety-critical phases of most USAF AMC missions. However, the current Level D Full Flight Simulators cannot deliver the expected results.

The Lm2 motion cueing technology bridges this gap in flight handling realism and improves mission-critical manual flight training with higher proficiency and safety. With Lm2, pilots learn to fly the aircraft rather than just a simulator.

Mission Safety Critical Examples

- Realistic aircraft handling response during Air Refueling
- Realistic Tactical and Short Austere Airfield Approaches in hostile environments
- Crosswind landing training to the maximum demonstrated aircraft limit
- Approach and landing training with reduced visual cues (including Night Vision Goggles)
- Taxi technique including Runway 180° and Hot Pit Refueling
- Improve decision-making capabilities of the crew during complex operational scenarios, including aircraft technical malfunctions

Lm2 Value Proposition: More Air Mobility per Dollar

- Cost-effective training solution for large transport category aircraft
- Higher ROI of investments already made (motion systems and buildings)
- Fewer real aircraft hours (reduced cost of tires, fuel, maintenance and crew)
- Higher availability of aircraft and crew for real AMC missions
- Less exposure of crew and aircraft to real safety-critical maneuvers
- Proven track record with 60+ Lm2 Licenses on all KC-135, C-130, C-130J, KC-10 and C-5 WST/OFT
- Pilots and Flight Instructors love to fly it: Builds up individual pilot confidence in combat environment scenarios
- Improves crew mission readiness and capability
- In line with the Air Force Climate Action Plan

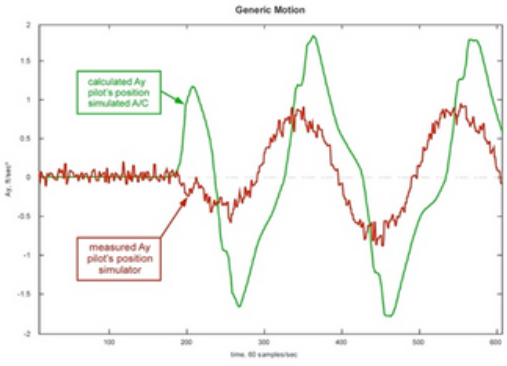
Lm2 Installation Details

- Lm2 is a Motion Drive Algorithm; retrofit Licenses only require a software upgrade
- Applicable to all large stroke 6 DOF motion systems, electric or hydraulic
- Limited trainer downtime effort: One-time Prototyping downtime is limited to only one trainer per aircraft type. It is unnecessary to carry out individual engineering and tuning for other trainers
- US patented
- It is also applicable for large helicopters such as the UH-60 Black Hawk
- Installed by CymSTAR LLC, teamed up with Belgium-based technology company AWx (Acceleration Worx bv)

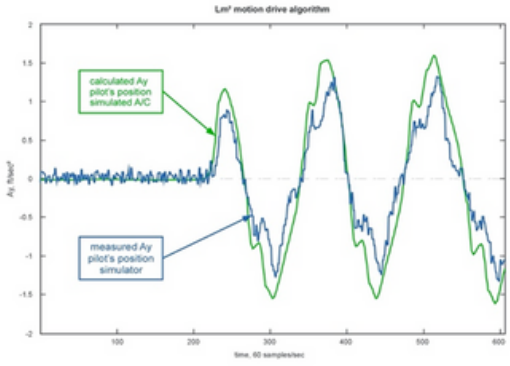
Lm2 Technical

When a large aircraft is subjected to roll or rudder/tiller input, the primary motion cue is lateral acceleration. This is due to the offset of the pilot in relation to the center of rotation of the aircraft. However, even modern Level D simulators, including those that comply with the ICAO 9625 Objective Motion Cueing Test, often fail to account for this effect. As a result, the motion perception can be out-of-phase, leading to inaccurate simulation.

With Lm2, motion perception is in phase with the simulated aircraft. This promotes accurate control inputs and high-fidelity feedback, resulting in a superior transition to flying a real aircraft.



Without Lm2



With Lm2

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