LEARJET IN-FLIGHT SIMULATOR

- **Multipurpose – Test and Training**
- **Easily Reconfigured**
- **Fully Instrumented**
- **Multiple Cockpit Controls**
- **Ideal Flying Classroom**

Calspan's Learjet In-Flight Simulators are efficient test and training aircraft that replicate the total flight environment. The rapid turnaround capability makes the Learjets powerful design tools for use in time-critical test programs. The comfortable flying classroom atmosphere and ability to simulate many different aircraft characteristics on a single flight make these aircraft effective trainers

A refueling boom is fitted when the airplane is used in a tactical role. In-flight refueling is a demanding task that proves useful in finding flying qualities problems inherent in a design.

Since their introduction, the Learjet In-Flight Simulators (IFS) of Calspan Corporation (Calspan), have proven to be cost-effective test and training aircraft flight control system concepts. They are highly capable and adaptable to many user needs.

In the flight test role, they are used extensively to develop aircraft designs and to prepare test pilots for the prototype first flight. When flying the IFS, the test pilot experiences the real-world environment and is in effect flying the simulation. Our Learjets have supported the development of many military and civilian aircraft including the Saab JAS-39 Gripen, Indian Light Combat Aircraft, Indonesian N-250, Cessna Citation X, Bombardier Global Express, Dornier 728 and Embraer 170. With the advantage of an onboard safety pilot they are very effective in simulating unmanned aerial vehicles (UAVs).

They are an integral part of the curriculum at nearly every Test Pilot School (TPS) worldwide. They teach TPS students the practical applications of aircraft dynamics, stability and control, and how to evaluate flight control designs.

The inherent flexibility of the Learjets make them powerful tools for Upset Recovery Training, enabling commercial pilots to recover from aircraft loss of control and upset events, which are a leading cause of accidents.

The heart of the simulation system is a series of high-speed digital computers that can be operated by the left-seat safety pilot or from

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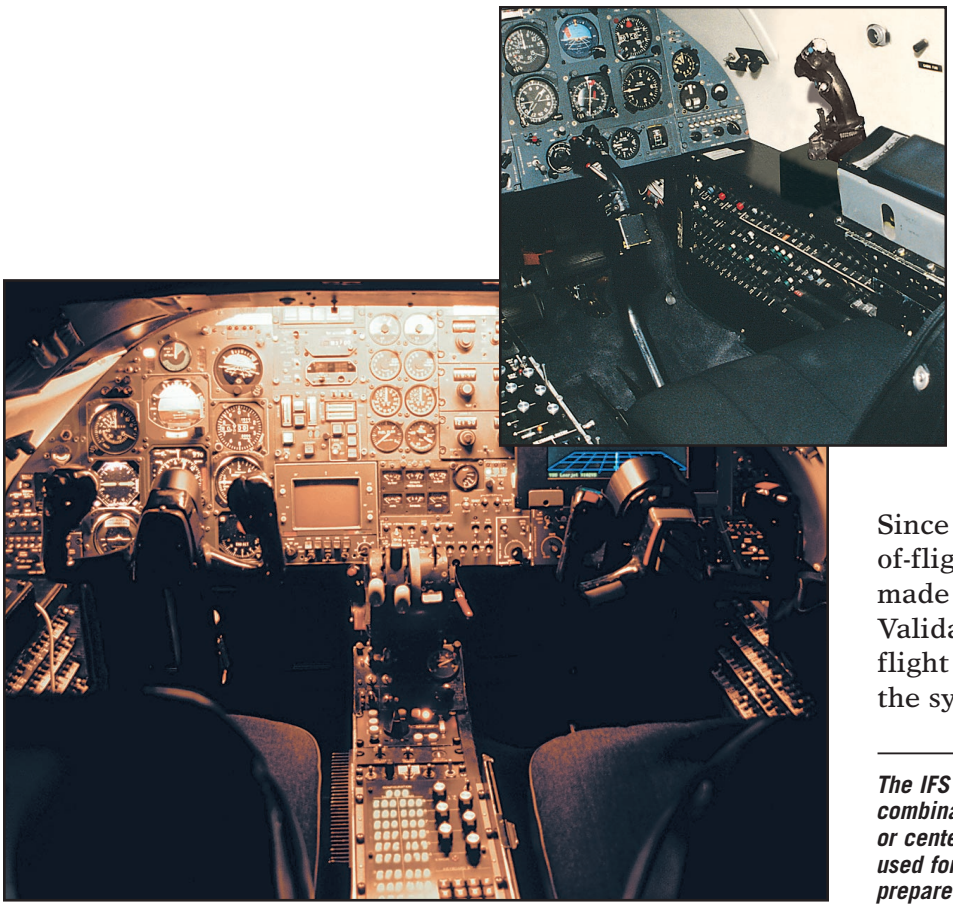

the flight test engineer station. They are easily programmed using a MATLAB/ Simulink graphical interface. And the autogenerated code runs in the onboard computers. This allows rapid turnaround of system changes and makes hosting and checkout very efficient. We can host customer software in virtually all commonly used programming languages including Ada, FORTRAN, C, and MATLAB Simulink.

Since the simulation system is not safety-of-flight critical, quick changes can be made without extensive Verification and Validation testing. An optional onboard flight test engineer can even reprogram the system in-flight.

The IFS crewstation can be configured with any combination of three controllers: a conventional yoke or center stick, and a side stick. The bolt-on display is used for configuration checkout, test rehearsal, or to prepare for a training flight.

High-Fidelity Simulation System
- *In-flight programmable*
- *Digital recording and telemetry*
- *Automatic limit monitoring system*

Safety Pilot Position
- *Pilot-in-command functions*
- *Configuration management*
- *Back-up control*

Fully Instrumented
- *Aircraft Motion*
- *System parameters*

Evaluation Pilot Position
- *Variable-feel controls*
- *Complete flight environment*
- *Real world forces and motions*

Calspan

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