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## New Hardware Installed on Airborne Laser

A new pod which will contain the Airborne Laser's super-sensitive tracking laser, the Active Ranging System (ARS), has been installed on the ABL aircraft, currently being integrated at Edwards Air Force Base, Calif.

The previous pod had to be removed because it generated excessive vibrations during ABL's first few flights in July 2002. The new pod, which is weighted to simulate the ARS' bulk and equipped with a dummy nose rather than the actual ARS sensor, has undergone Computational Fluid Dynamic (CFD) analysis to validate the design. It will be aboard the ABL aircraft, YAL-1A, when flight testing gets underway.

If the new pod proves suitable in the flight tests, the ARS system, now being built and tested at a Lockheed Martin facility in Orlando, will be installed.

The system consists of a carbon dioxide laser, active and passive sensors, optics, gimbals, and a variety of sensitive electronics.

Its function is to provide data to the mission processor, which uses the information to track hostile ballistic missiles and prioritize them as targets for ABL's megawatt-class Chemical Oxygen Iodine Laser. The COIL focuses enough energy on the missile's metal skin to cause it to rupture and break into multiple pieces.

During the tracking process, the ARS provides a six component-state vector (position and velocity) to ABL's battle management system. When interpreted, the data supplies a calculation of the missile track parameters, including an estimate of the missile launch point and a predicted impact point.

Even if the missile is not high on ABL's priority list, the data can be used by other elements of the Ballistic Missile Defense System so it can be attacked in the midcourse or terminal phases.

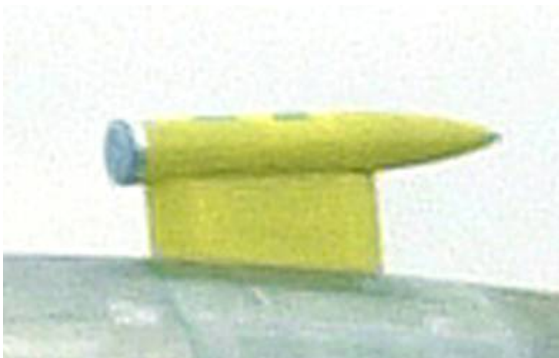


PHOTO CAPTION: The ABL Active Ranging System (ARS) pod has been upgraded to replace the previous version (left) with an improved design (right).