



SAAB

BOL COUNTERMEASURES DISPENSER WITH **SUPERIOR ENDURANCE**



ENSURING MISSION SUCCESS



The advantages of affordable and reliable physical off-board decoys have made chaff and flares a fundamental component of an effective aircraft integrated self-defence suite, helping pilots to fulfil mission goals and return safely to base.

The effectiveness of covert infrared decoys has been much improved thanks to the development of new IR materials and methods of tactical deployment. Break-lock from hostile tracking radars can be further facilitated by synchronizing chaff dispensing with aircraft manoeuvres and the use of jammers.

HIGH CAPACITY AND RAPID DISPERSION

The ingenious design of BOL has revolutionized dispensing of chaff and IR payloads. An elongated shape houses a long stack of payload packs. An electromechanical drive mechanism feeds the packs towards the aft of the dispenser where one pack at a time is separated from the stack and released into the airstream. The release mechanism forces initial dispersion of the payload (chaff or IR), which is then enhanced by the vortex fields behind the aircraft.

Used with the specially designed IR payload, the air-stream will build up a large radiating IR decoy cloud. The high capacity of the dispensers (160 packs each) gives pilots the sustained defensive capability needed to accomplish missions successfully.

The shape of the dispenser allows it to be sited in the most desirable locations on an aircraft. It is best located on the wings where wing vortices can be utilised to improve dispersion. With dispensers on each wing, the spatial separation of payload clouds significantly increases radar cross-section (if used with chaff) or the extension of the IR radiating source (if used with IR payload). BOL systems are thus usually mounted in a symmetrical twin or quadruple configuration on the wings.

BOL's high payload-to-volume ratio, non-pyrotechnical release mechanism and effective dispersion gives the dispenser superior performance for both chaff and IR payloads. The latter allows covert dispensing of a special material that has proved very effective against advanced IR missiles.

For aircraft already equipped with pyrotechnic dispensers, retrofit with BOL will significantly enhance the protection of the aircraft by increasing the total payload capacity.

The introduction of BOL will free-up all the original pyrotechnical dispensers for spot flares, thus as a minimum doubling the capacity of this payload.

EASY TO INSTALL

BOL offers numerous installation alternatives for new aircraft and for retrofit.

The elongated shape of BOL lends itself to installation in elongated cavities in aircraft structure, missile launchers and pylons. Installation has been achieved without interfering with weapon load or flight performance.

BOL has been successfully integrated with a range of missile launchers including the LAU-7 Sidewinder launcher and the LAU-127/128/129 family of AMRAAM launchers.

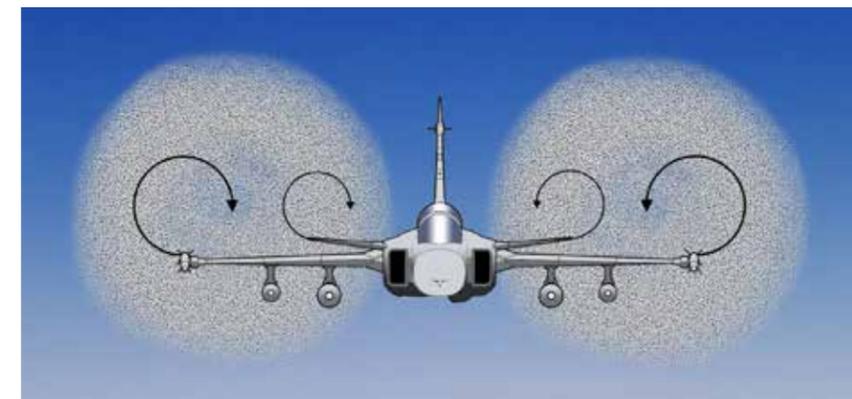
And with the advent of the new completely internally installed BOL version, even more options become available. For the first time, pre-emptive protection capability is available without any effect on platform mission range and RCS. The new BOL is installed internally and the eject port is covered with a hatch when not dispensing making it highly suitable for low-observable, stealth as well as transport aircraft. The hatch design will reduce drag and RCS contribution to a minimum without affecting the performance of the BOL.

For aircraft lacking internal installation options, the dispenser can be supplied in a special housing to allow conformal mounting at suitable hard points, for example on the fuselage, pylons or wings. The low added drag makes this version suitable for fighters as well as transport aircraft and bombers.

SEVERAL DISPENSER CONTROL OPTIONS

The BOL interface includes MIL-STD-1553B or EIA-485 as well as 28 VDC discrete signals. Information sent over the data links include dispense commands, status and BIT information. The 28 VDC signals may be used for discrete dispense signals or as safety signals. A RS-232 data link is available for maintenance purposes.

BOL has been integrated with EW/Countermeasure controllers from several suppliers e.g. ALE-47 and the Saab IDAS/CIDAS self-protection system.



Vortices promote rapid blooming.



BOL IR.



BOL Chaff.



BOL on Gripen.



BOL on RAAF F-18.



BOL on Typhoon.



BOL integrated in LAU-7 launcher on F-14 as it was installed.



BOL integrated in LAU-128 launcher on F-15.



Installation of mock-ups for new internal BOL dispensers.



BOL on Saab 2000 AEW&C.

TECHNICAL DATA

Weight empty	Conformal dispenser: 15.9 kg Dispenser only: 11.9 kg Internal dispenser: 9.0 kg
Payload weight	Up to 9 kg depending on type
Payload capacity	Up to 160 packs
Reloading time	Less than 1 min
Control signals	EIA-485 serial data link or MIL-1553B data bus. Up to three +28 V discrete signals.
Power supply	115 V, 400 Hz single phase

Specifications subject to change without notice

ACCESSORIES

The BOL Acceptance Test Station tests all functions of BOL dispensers.

The BOL loader speeds up the loading process as well as making it easy and safe to load in cold and/or BC environment.

MLV, Maintenance Loader Verifier, is a handheld device for Saab's dispenser products. Loads software and dispensing parameters, reads BIT-log, performs maintenance tasks.

BOLSIM is a simulator to be used in laboratory environments for system integration and advanced training.

REFERENCES

BOL is in use in the UK, the USA, Sweden, Australia, Finland etc on F-15 Eagle, Tornado ADV, F/A-18A/B/C/D, Gripen and in Europe on all EF-2000 Typhoon.

A joint cooperation by Saab (Sweden), BAE Systems (USA) and Chemring Countermeasures (UK) is formed to pursue worldwide opportunities for this innovative and unique dispenser system.