DEFENCE

McDonnell Douglas

plans laser fuzes

BY KIERAN DALY
IN WASHINGTON DC

McDonnell Douglas Elec-

tronic Systems (MDESC) is
trying to find applications for
laser-fired ordnance technology,
which holds out the promise of
safer weapons management.
The laser-diode-initiated ord-
nance (LDIO) programme uses
laser signals and fibre-optic
routeing to monitor and initiate
missiles and other devices on an
aircraft, while achieving immu-
nity to radio frequency (RF)
interference. US Navy officials
have mandated a switch by 1995
to "insensitive munitions" that
are not susceptible to RF, shock,
high temperature or other risks.
The US Army expects to switch
to laser within ten years.
MDESC microlaser specialist
Dale Waldo says: "In today's
world, almost every explosive
device uses bridge wire and you
run a very high current through
it. But, in today's field, you have
very, very strict requirements
because there is a lot of RF out
on the battlefield. The wire acts
as an antenna and it will heat up
in that environment.

"When they land aircraft or
helicopters on carriers even
today, they have to point arma-
ment off the ship because of the
electromagnetic interference

concern that it might go off.
Using fibre-optics, there is no
concern about that."
The system is said to be
highly suitable for aircraft be-
cause of its built-in test capabil-
ity, light weight (2kg), small size
and low power (less than
1.0Amp) requirement. The laser
hybrid which generates the sig-
nal can be buried within the
fuselage, where it is less suscep-
tible to RF. The signal is trans-
mitted through fibre-optic lines
and is mirrored back to monitor
stores carried, or used to fire a
laser initiator, manufactured by
Special Devices of Newhall, Cali-
fornia, to launch a weapon.
MDESC was trying to have the
system configured into the MDC
Advanced Tactical Fighter YF-23
bid until it lost the competition.
It was, however, part of MDC's
Advanced Interdiction Weapon
System proposal and, says
Waldo, is standard on most new
MDC missile designs. MDESC
has high hopes of using LDIO in
. the Delta II launch vehicle, and
possibly in others, and is now
planning its use in ejection seats.
For a generic ejection se-
quencer, McDonnell Douglas
Electronic plans to use LDIO to
cut tolerances in canopy dis-
posal, ejection and man/seat sep-
aration. Current systems use a
miniature detonating cord. •

CASUALTIES

GREECE
A Greek air force Douglas
C-47 crashed on take-off from
Tatoi AB near Athens on 27
December, killing the pilot
and slightly injuring five of
the transport's six passengers.
Engine failure was reported.

UNITED STATES
A Minnesota Air National
Guard General Dynamics F-
16B Fighting Falcon failed to
return to Howard AFB, Pan-
ama, on 19 December. The
aircraft belonged to the 148th
Fighter Interceptor Squadron.

HONDURAS
A Honduran army Bell UH-1H
was shot down over El Salva-
dor on 19 December. All nine
crew and passengers on board
the helicopter were killed.
The Salvadorean Farabundo
Marti National Liberation
Front admitted responsibility.

SOUTH KOREA
Two South Korean air force
Northrop F-5As collided and
crashed near Kwangju on 13
December. The pilot of one
F-5 ejected, but the other did
not and was killed.

HAWKS REPLACE CANBERRA TUGS
The English Electric Canberra TT.18s operated by the Royal Air Force's lOOSqn in the target towing role for surface-to-air and air-to-air gunnery and as intercept targets are being replaced b_y British Aerospace Hawks. lOOSqn is based at RAF Wyton, Cambridgeshire.

Israel plans new AH-1 Cobra upgrades T

he Israeli air force plans to
upgrade its Bell AH-1S
Cobra attack helicopters further
by increasing maximum take-off
weight and installing an ad-
vanced mission computer, multi-
function displays and other
cockpit systems.
The programme will enhance
the capability of the helicopter,
already improved by a new night
targeting system (NTS) devel-
oped in Israel jointly by the
Israeli air force and the United
States Marine Corps.
The NTS, known to the
USMC as the Cobra laser night-
attack system, is an extensive
upgrade of the Cobra's original
M-65 TOW missile system. NTS
gives the Cobra full night capa-
bility to launch TOW and Hell-
fire missiles. Installation is about
to begin.
The further upgrading of the
attack helicopter will involve in-
stalling a new mission computer
driving a moving map system, a
global positioning satellite navi-
gation system and multi-func-
tion displays.
To enhance the helicopter's
operational capabilities in varied
environments, its maximum
take-off weight will be increased
from the current improved
4,606kg to at least 4,919kg. To
achieve this, the existing two-

blade main rotor will be re-
placed with a four-blade type, a
new power transmission system
will be installed and the tail
boom will be stretched. Other
airframe modifications will also
be performed. • •

Logica to supply

UK low flying

safety system
U

K company Logica has been
awarded a £10 million con-
tract by the UK Civil Aviation
Authority (CAA) on behalf of
the Ministry of Defence to im-
plement the automated low fly-
ing, flight planning, enquiry and
notification system (ALFENS) to
co-ordinate military low flying
activities and routeing deconflic-
tion in the UK.

All major military airbases
and weapons ranges in the UK
will have dedicated access to the
central ALFENS computer at the
CAA's London Air Traffic Con-
trol Centre. Over 300 user work-
stations will be networked to
provide route and range book-
ing, route deconfliction and real-
time data on weather and air
traffic restrictions. •

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