TECHNICAL: DEFENC E

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The US Navy is to test fire Hellfire missiles from its SES 200 surface effects ship

Hellfire improvements studied
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ockwell International is to
study an improved Hellfire
missile that could become
the baseline weapon for the
US Army's LHX light-attack
helicopter.
The Army, meanwhile, is to
test Hellfire's effectiveness as an
air-to-air weapon, so avoiding
the need for anti-tank helicopters
such as LHX and the present
AH-64 Apache to carry self-
defence missiles such as Stinger.
Under an almost $1 million
contract, Rockwell is to develop
conceptual designs for an "opti-
mised" Hellfire that would be
smaller, lighter, and cheaper
than the current weapon. The
existing laser seeker's resistance
to countermeasures will be
increased, and the optimised
missile will accommodate the
millimetre-wave radar seekers
for use with their airborne
adverse-weather weapon system
to be fitted to AH-64s.

Other changes include the
introduction of a tandem war-
head, to cope with reactive tank
armour, an externally program-
mable electronic fuze, and digital
autopilot. The Hellfire study will
last eight months.
In a separate move, Rockwell
is negotiating with Emerson
Electric to develop a version of
the latter's HELITOW helicopter
missile system able to fire Hell-
fire. HELITOW is designed for
use with wire-guided TOW
missiles. The ability to fire laser-
guided Hellfire will be achieved
by installing a Litton laser desig-
nator in the sight.
A prototype HELITOW Hell-
fire will be ready for testing later
this year, the team says, and 12
countries have been identified as
possible candidates for the
system. HELITOW is installed on
several helicopter types includ-
ing the Agusta A.129.
One potential customer is

Sweden, which operates HELI-
TOW-equipped MBB BO. 105s
and has just started receiving
Hellfire anti-ship missiles for
a shore-defence system, the
RBS-17. Rockwell is delivering
subsections for 700 missiles to
Bofors for final assembly and
installation of the delayed-action
blast-fragmentation anti-ship
warhead. Test launches will
begin later this year.
• Rockwell's AGM-130 stand-
off weapon, a rocket-boosted
version of the GBU-15 glide
bomb, has completed devel-
opment flight tests and is to
begin nine initial operational test
launches this month. There will
be five launches from an F-4 and
four from an F-lll.
The US Air Force has re-
instated the AGM-130 in its
stand-off weapon master-plan,
Rockwell understands, but will
have to take money from other
programmes for production. D

Reworked CF-5s

near completion
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ristol Aerospace will com-
plete the first reworked
Canadian Forces Northrop CF-5
in August, in a major programme
to prepare the aircraft for its new
role as the lead-in trainer to
Canada's McDonnell Douglas
CF-18 fighter.
The CF-5s are being com-
pletely stripped and inspected.
Their fuselage dorsal longerons
are being replaced, their wings
and fins repaired, and the aircraft
are being reskinned to extend
their lives. New wiring and
digital avionics will be installed
later.
The new avionics include a
Ferranti headup display and
weapons aiming computer with
up-front controller and video
recording, a Litton LN-93 laser
inertial navigator, and digital
airdata computer, all connected
by 1553B databus. Q

Belgium selects
Collins system
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he Belgian Army aero-
mobility programme has
selected Collins Avionics' man-
agement system, including auto-
matic target handover system, as
well as communication and navi-
gation equipment.
The exact value of the deal,
which is being arranged in
partnership with Alcatel Bell
Telephone in Belgium, is still to
be negotiated. Deliveries will
begin in 1991 for installation on
Augusta A. 109 helicopters. •

STC claims

GPS lead

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TC claims to have developed
the smallest", most advanced
global positioning system (GPS)
receiver for military aircraft. The
quarter-ATR-sized STR2500,
five-channel precision-code
receiver has completed trials and
is ready for production, the UK
company says.

The first application is an inte-
grated inertial/GPS navigation
system developed jointly with
Litton Italia. The LISA-6000,
which combines STC's GPS
receiver with Lital's strapdown
inertial platform, was chosen
by the General Dynamics-led
consortium which unsuccessfully
bid for the NATO modular
stand-off weapon (MSOW)
programme.
The STR2500 is STC's third
generation of GPS receiver since
development started in 1977.

A eighth-ATR second-generation
receiver using large-scale integ-
rated circuits and ADA software
was tested in 1983/84. STC's
latest receiver uses very-large-
scale integration to reduce size
still further.
To produce the LISA-6000,
STC's GPS module (three circuit
cards) has been integrated •into
Lital's LISA-4000 strapdown atti-
tude and heading reference
system. The resulting 7kg unit
has navigation performance
similar to full inertial systems

weighing two to three times as
much, says STC.
Engineering prototypes of the
LISA-6000 have been on test for
over a year, and the equipment is
shortly to begin flight trials. STC,
meanwhile, has signed an agree-
ment licensing Rockwell-Collins
to produce its GPS antenna
control unit in the USA. The
device is for use with a controlled
reception pattern antenna—a
seven-element array which is
able to create reception "nulls" to
overcome jamming. •

FLIGHT INTERNATIONAL 1 July 1989 17