DEFENCE

France considers Mirage 2000-5
BY GILBERT SEDBON
IN PARIS

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he French air force is con-
sidering the purchase of up
to 40 Dassault Mirage 2000-5
combat aircraft equipped with
the new Thomson-CSF RDY
multi-target, lookdown /
shootdown radar.
As a second option the air
force is also looking at a major
retrofit of two earlier generation
Mirage 2000 squadrons of the 2e
Escadre de Chasse (Cigogne)
based at Dijon, central France,
replacing their Thomson-CSF
RDM radar with the more ad-
vanced RDY.

The question of whether to
make new acquisitions or up-
grade existing aircraft is being
reconsidered. The air force
turned down the Mirage 2000-5
in 1991, mainly because of a
budget squeeze, but also with an
eye to the new generation Rafale
combat aircraft. It now fears that
Rafale may not be available be-
fore 1997.
Dassault Aviation has been
pressing the French air force to
buy the Mirage 2000-5 in the
hope of giving it domestic credi-
bility, as a prerequisite for
achieving a sale overseas.
The Mirage 2000-5, with its
new radar and upgraded avion-
ics, plays a central part in Das-
sault's sales campaign in
Finland, the United Arab Emir-
ates, Malaysia and Pakistan.
The French defence ministry's
arms procurement division ap-
pears to have come to Dassault's
rescue. The Delegation generate

pour I'armement (DGA) chief
Yves Sillard said recently that
the possibility of the French air
force buying the Mirage 2000-5
cannot be ruled out.
The French Government is
also considering retiring older
Mirage 2000 fighters from the
air force to offer them for sale
or lease in eastern Europe and
south-east Asia, say government
and industry officials. The pro-
posal under discussion concerns
two to three squadrons — 30 to
45 aircraft — and comes in
response to heavy lobbying from
Dassault, Thomson-CSF and en-
gine-maker Snecma.
The French government is
studying a request from Paki-
stan to purchase Mirage 2000s.
Pakistan's prime minister Nawaz
Sharif, during a recent two-day
visit to Paris, secured a French
pledge to sell 40 Mirage 2000s
to the Pakistan air force, but
under stringent financial condi-
tions. Sharifs meetings included
one with Serge Dassault.
Although Dassault Aviation
insists there are no negotiations,
the Pakistan industry officials
maintain the stumbling block is
payment.
Pakistan has in the past 20
years, bought 80 Mirage Ills
from France and has more re-
cently acquired Australia's age-
ing Mirage Ills. The Pakistani
Government have been pressing
for permission to purchase of
the Mirage 2000, in the wake of
a refusal by the USA to supply
General Dynamics F-16s be-
cause of the Pakistani stance on
nuclear weapons. •

The French air force holds the hey to future Mirage 2000-5 sales

AX programme may co
BY GUY NORRIS
IN LOS ANGELES

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he cost of the US Navy's AX
programme could be double
or even treble that of the A-12,
the cancelled medium-attack air-
craft that the AX is designed to
partially replace, according to
General Dynamics (GD) director
of signature and advanced engi-
neering, Keith Jackson.
Revealing new details of the

abandoned programme, Jackson
says around $4 billion had been
spent on the A-12 when, shortly
after it had passed its final criti-
cal design review, it was
cancelled by US defence secre-
tary, Richard Cheney. Compared
to this, projected spending on
the AX runs to beyond $12
billion including around $3 bil-
lion described as the pro-
gramme's "range of uncertainty".
"The A-6 is still obsolete and

GD reveals classified
D

eclassified details of the
General Dynamics (GD)/
McDonnel l Douglas A-12
Avenger II, cancelled suddenly
a year ago, have been revealed.
The revelations are signifi-
cant given that much of the
technology derived from the
A-12 will form part of a GD
team-bid for the up-coming AX
competition for the US Navy.
GD director of signature and
advanced engineering, Keith
Jackson, says: "At the time of
the termination on 7 January,
1991, the drawings for the first
aircraft were 99.2% released
and 87.8% of production tools
were complete or available'
Approximately 50% of the parts
for the first two aircraft were
complete, including many large,
complex composite 'big bones',
the primary area where manu-
facturing development had
proven to be more difficult than
anticipated."
Eight of the General Electric
F412 engines were under test at
the time, wing skins were com-
plete as was software for the
first aircraft's vehicle manage-
ment system.
Despite the fact that, at the
time of cancellation, the aircraft
was expected by Naval Air Sys-
tems Command (Navair) to be
almost 8,0001b (3,628kg) over-
weight at best and final offer
(BAFO), Jackson says the per-
formance estimate of the A-12
was "...in every case, to meet or
exceed, in some cases substan-
tially, either these initial Navy
performance projections or the

contract specification values".
The A-12 empty weight in-
creases were estimated by GD
to be "...somewhat less than
6,0001bs (2,721kg) heavier than
initial contractor projections at
BAFO", but performance was
retained; "...mainly because
night control technology com-
pensated for weight growth and
because aerodynamics did not
suffer at all".

Compared to the least of the
full-scale development (FSD)
specification value and Navair
estimate at FSD start, GD be-
lieves the aircraft's design mis-
sion radius was 19% better than
the Navair estimate at the start
of full-scale development.
Maximum speed was 5% bet-
ter and specific excess power
10% better while sustained g
remained roughly equal. Mini-
mum wind-over-deck launch
speed was around 3-4ft/s (lm/s)
better than target.
The A-12 was to be a large
carrier-based aircraft with an
unfolded span of around 21m
and a length of just over 11m.
With wings folded, span was
reduced to around 11m giving
a deck spot factor (a measure of
space taken up by the aircraft
on the carrier) smaller than the
Grumman A-6 and the F-14.

The A-12's planform shape
consisted of three straight edges
and a wing sweep of 46.5°, and
was selected because of its low
radar cross section. GD says a
variety of vertical tails were
tried and rejected because of
radar signature penalties and, in

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