BUSINESS AVIATION

Schweizer markets civil SA 2-37A
LEESBURG

Schweizer Aircraft has given a
public airing to a special-
purpose aircraft previously
sold only for secret military
applications, reports Julian
Moxon.

Schweizer is now marketing
the SA 2-37A for "law
enforcement, border surveil-
lance, and specialised military
applications" and has begun a
comprehensive tour of poten-
tial US civil and military
customers. It is promoting the
SA 2-37A fitted with the
Hughes AN/AAQ-16 forward-
looking infrared (Flir) night
vision system.

For Flight's demonstration
the SA 2-37A was flown out of
Leesburg Airport, about 40
miles from Washington D.C.,
by Les Schweizer, one of three
brothers who annually rotate
the Schweizer presidency.
The flight lasted about 40min,
and provided an opportunity
to examine this unusual
aircraft/sensor combination.

The AN/AAQ-16 is a sophi-
sticated sensor system small
enough to fit into an aircraft
like the SA 2-37A. It already
has several military applica-
tions (including the Bell/
Boeing V-22 tilt-rotor), and is
now available commercially.
The Flir sensor is mounted
in a turret below the fuselage,
and can be rotated through
210° in azimuth and from
85°-180° in elevation. It is
operated using a hand-held
control unit, which requires
some skill before full use can
be made of the Flir's capabili-
ties. Simple tracking tasks
can be carried out by the
uninitiated almost immedi-
ately, however.

After a short warm-up, the
Flir image appears on the
mission operator's multifunc-
tion display (MFD) on the
left-hand side of the panel.
Navigation symbology from
a Litton inertial navigation
system is presented around
the edge of the MFD.
As the SA 2-37A needs only
52 h.p. to maintain altitude,
its six-cylinder 235 h.p. Lyco-
ming 10-540 engine felt
relaxed throughout. At 70kt,
in "quiet mission mode", the
three-bladed McCauley pro-
peller rotates at only 1,200
r.p.m., resulting in a low noise
signature. After Flight's
demonstration the SA 2-37A

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Left Schweizer
Aircraft is

promoting its 2-37A
light surveillance
aircraft fitted with
the Hughes
AN/AAQ-16
forward-looking
infrared night
vision system.
Below The
system's sensor is
mounted in a turret
below the fuselage
on the centreline
just forward of the
wing trailing edge

was flown over Leesburg field
at 1,300ft. In the presence of
ordinary background noise,
and with the navigation lights
switched off, it was virtually
impossible to locate the air-
craft from the ground.
The secret lies in the use of
a very-high-aspect-ratio wing,
coupled with advanced lead-
ing-edge technology to pro-
vide a lift-to-drag ratio double
that of an ordinary light
aircraft. The leading edges are
extended at mid- and three-
quarter span by two "cuffs",
each measuring around a foot
in length, which are essen-
tially small, fixed-position
leading edge slats. These
interact with the ailerons to
provide very good low-speed
performance without an asso-
ciated drag penalty. An inter-
esting feature is a pair of dive
brakes on each wing, provid-
ing a safe 14,000ft/min
descent.

The long, thin wings yield
more response in pitch than in
roll and yaw, but without any
detriment to overall control-
lability. Les Schweizer
demonstrated the SA 2-37A's
low-speed handling qualities
by stalling the aircraft power-
on, and maintaining control
in all three axes while the
aircraft was "mushing". Even-
tually, the right wing dropped,
but was recovered immedi-
ately and without difficulty.

Our flight took place at
between 1,000ft and 3,000ft,
in gathering dusk. Flir images
could be enhanced using a six-
times magnification capabil-
ity built into the hand-held
control unit. Sheep and cows

were easily picked out, and
warm spots where cars had
been parked could be
distinguished. With skill, the
system can be made to track
moving targets automatically,
images being returned to base
by a microwave data link.
Schweizer will provide
special night cockpit lighting
compatible with night vision
goggles for the pilot if
required, along with a flat
black anti-glare interior if the
mission dictates.

Standard equipment on the
SA 2-37A includes a 100A
alternator, which was enough
to run the equipment on
the demonstrator aircraft.
Schweizer quotes a 300A
generator as one of the
options, including air condi-
tioning.

The basic SA 2-37A comes
equipped with a King avionics
package that includes ADF
and Nav/Com with VOR/
ILS. There is plenty of spare
room on the console for
installing additional systems,
such as Loran. Besides the
Litton INS, the demonstrator
aircraft was fitted with a King
KNS 80 RNav system and
King KRA 10A radar alti-
meter.

Price of the basic aircraft is
between $350,000-$400,000,
depending on options. Addi-
tion of the Hughes Flir almost
doubles the price (Hughes will
not disclose the exact figure).
Low light TV, or more power-
ful Flir, are easily accommo-
dated in the SA 2-37A's
payload bay, according to
Schweizer.

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