SAAB 2000 DESCRIBED

Fast and flexible
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aab production chief Hakan Andersson wants to cut the lead time for a Saab 2000 or Saab 340 in half, saying: "It will be our competitive edge when the market starts increasing". To do it, he is engineer-ing a cultural change within his own company and its suppliers that will result in an production system that is flexible to the market needs for both aircraft.

"The big challenge", says Saab 2000 programme manager Oster, "is that we are communicating with several different cul-tures — the USA, Spain, Finland and the UK." The 2000 is on schedule, nevertheless, "...although we haven't always begun each component of the programme on time". Andersson says: "There are two problems. First, we don't know the market require-ments five years from now, and second we need to be able to adjust production rates at will." All this pointed to the need for much shorter lead times throughout the production process. Andersson wants no white tails, "...which means that we'll never start cutting metal without an order".

INTEGRATED PRODUCTION
Saab began revising its production philos-ophy in 1989, when the orderbook for the Saab 340 suddenly picked up and the Saab 2000 was launched. "The production re-quirement for 340s moved from one every eight days to one every five," says An-dersson. "We knew the 2000 fuselage would be the same diameter, so we started think-ing about an integrated production system for both aircraft."
One of the first actions was to shift

The 2000's fuselage is built on the same automated line as the shorter 340 unit

production of certain components out to
satellite centres and subcontractors, which
offloaded Linkoping — where the only
sub-assembly work is now the Saab 340
wing box. "The result is that the production
process is more easily controllable," says Andersson. "We know where the responsi-bilities are. It is more visible, and there are fewer employees, with more flexibility." Both the Saab 340 and 2000 forward fuselages are now built at Saab's site at

Use of bonding and composite materials

2 Metal/metal bonding

]] Aluminium honeycomb

2} Composite materials

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Dagsberg, while the cabin sections are produced at Malmo. The 2000 rear fuselage is built by Westland Aerospace in the UK (which also builds the nacelle for the 340), while the 340 rear fuselage is produced at Saab/Odeshog. Saab also builds the 340 empennage, but Finnish manufacturer Valmet builds the empennage for the 2000. Linkoping is thus released for final assem-bly and testing of both aircraft.

FUSELAGE ROBOT

Fuselage production at Malmo is centred on a brand-new Atlas Copco robot that loads panels, drills and countersinks them auto-matically, then rivets them together with one orbital tool carrier working on the outside and another on the inside of the fuselage that runs along the seat tracks. Virtually all manual riveting is eliminated, says the company. It will take the machine almost 30h to insert 7,500 rivets in the 2000 fuselage.
The 50m-long machine can work on either Saab 340 or 2000 fuselage sections, and can work on both types simultaneously if necessary, with none of the shift restric-tions which manual work would impose. The result is a further improvement in the
flexibility and the rate at which aircraft can
be built, giving Saab the potential to pro-
duce a total of up to 80 aircraft a year of
either type. Andersson says the production
rate will start at 45 a year, however.

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