

private shareholders; other companies could join Fokker Holding. Total Fokker workforce reduced from 13,300 in 1990 to 7,500 by late 1995; further reduction to 6,700 planned by mid-1996. Ypenburg plant to be closed; management being streamlined and production facilities made more efficient and flexible. In January 1996, when it held 78 per cent of Fokker, Daimler-Benz withdrew its financial investment; Fokker immediately began negotiations with potential purchasers, but none found, and on 15 March NVKQV Fokker, Fokker Aircraft BV and Fokker Administration BV declared bankruptcy. Remaining viable Fokker activities and operating companies were reorganised and continue to operate under umbrella title Fokker Aviation BV, as detailed above, having been bought by Stork NV. An early priority was to complete manufacture of 15 aircraft (four F50s, four F60 Utilities, five F70s and two F100s) that were in assembly at the time of the bankruptcy. Planned output for 1996 had been set at 65 aircraft, which total also represented the number of aircraft on firm order at 15 March 1996: 12 Fokker 50s, 40 Fokker 70s and 13 Fokker 100s. (Additionally, 1,130 Fokker airliners remained in service in early 1996.) Manufacture of a further 15 aircraft (six F50s and nine F70s) approved by receivers in June 1996.

UPDATED

FOKKER 50

TYPE: Twin-turboprop short-haul transport.

PROGRAMME: Follow-on development of F27 Friendship, announced 24 November 1983; more than 80 per cent of components new or modified; two prototypes used modified F27 fuselages; maiden flight of first prototype (PH-OSO) 28 December 1985; first flight of first production Fokker 50 (PH-DMO) 13 February 1987; JAR 25 certification by Dutch RLD 15 May 1987; first delivery (to Lufthansa CityLine) 7 August 1987; FAA type approval (FAR Pt 25) 16 February 1989. Early 1993 RLD certification of PW127B variant, called the Fokker 50 High Performance; first delivery (to Avianca) 2 April 1993.

CURRENT VERSIONS: Fokker 50: Baseline model for up to 58 passengers; P&WC PW125B turboprop engines; available in four-door and three-door configuration. Detailed description applies to baseline model, except where indicated.

Fokker 50 High-Performance: Same seating capacity as Fokker 50 but with more powerful PW127B turboprop engines, providing high performance from short runways and obstructed or hot and high airfields; available in four-door and three-door configuration. Details, where different, incorporated with baseline version.

Fokker 50 Utility: Based on standard Fokker 50 (three-door configuration); multipurpose door (height: 1.65 m; 5 ft 5 in, width 1.30 m; 4 ft 3 3/4 in) and heavy-duty floor. Available for specific corporate and governmental requirements; configurations include passenger or cargo transport, para- and supply dropping and medevac. PW125B engines; optionally PW127B engines. Four delivered. Sales of this variant indicated below.

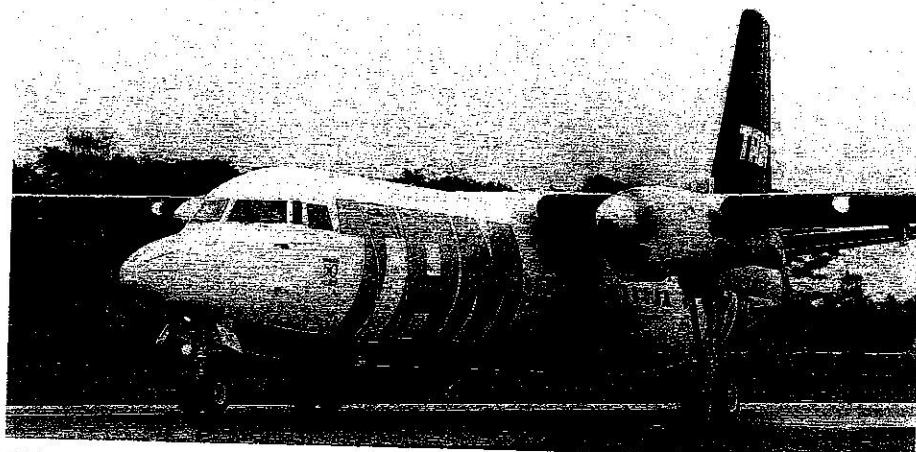
Fokker 60: Described separately.

Special mission aircraft: Last described in the 1996-97 Jane's.

CUSTOMERS: Production totalled 205 Fokker 50s and four Fokker 60s. Deliveries were made to Aer Lingus Commuter (four); Air UK (nine); Ansett (12); Austrian Airlines (eight); Avianca (10); Busy Bee (five); Crossair (five); DLT/Lufthansa CityLine (34); Ethiopian Airlines (four); Formosa Airlines (five); Icelandair (four); KLM Cityhopper (10); Kenya Airways (three); Luxair (four); Maersk Air (eight); Malaysia Airlines (11); Nakhon Airline Service (two); National Iranian Oil Company (two); Norddeutsche (two); Pelangi Air (two); Philippine Airlines (10); Rio-Sul (five); Royal Brunei Airlines (two); Royal Netherlands Air Force (two, plus four Fokker 60s); Royal Thai Police (one); SAS Commuter (22); Singapore Air Force (two UTA-A, two UTA-B and five Maritime Enforcers for No. 121 Squadron at Changi); Sonangol (two); Sudan Airways (two); Taiwan government (three); TAM Brazil (two); Tanzania government (one).

DESIGN FEATURES: Based on F27 proven airframe but with significant design and structural changes, allied to more efficient and fuel-efficient new technology engines in redesigned nacelles, driving specially designed six-blade propellers; 12 per cent higher cruising speed; carbon/aramid/glass fibre components in areas of wings, tailplane, fin, radome, engine nacelles and propellers; 'Foklet' horn balance at each wingtip to increase lateral stability at low airspeeds; passenger door relocated at front; greater passenger comfort and convenience, with more windows, new-design interior with extensive noise reduction; all-new cockpit, with EFIS; advanced digital avionics; twin-wheel nose gear; latest technology systems; pneumatic system replaced by hydraulic; improved airport handling. Wing section NACA 64-421 (modified) at root, 64-415 (modified) at tip; unswept; dihedral 2° 30'; washout 2° on outer wings; incidence 3° 30'.

FLYING CONTROLS: Mechanically (cable) actuated ailerons, with inboard spring tab and outboard geared tab (starboard geared tab acting also as electrically actuated trim tab); mechanically interconnected elevators, with starboard trim



Fokker 50 twin-turboprop transport of TAM Brazil (two Pratt & Whitney Canada PW125B engines) 1996

tab; rudder has trim tab, geared tab and horn balance; hydraulically actuated, mechanically interconnected single-slotted trailing-edge flaps with electrical back-up.

STRUCTURE: Primary structure is all-metal riveted and metal-bonded stressed skin; detachable AFRP wing leading-edges; composites wing trailing-edge skins supported by composites or metal ribs; bonded skin/stringer ailerons have composites leading-edges; metal flaps; fin and fixed incidence tailplane have metal primary structure; wingtip 'Foklets' are of metal reinforced composites; composites also for nosecone, fairings, nosewheel doors, access doors, cabin floor, engine air intakes and nacelle cowlings, tail unit leading-edges and part of dorsal fin. Subcontractors included Dassault (centre and rear fuselage), Fuji (rudder and elevators), Daimler-Benz Aerospace Airbus (wing trailing-edge and control surfaces, tailcone and dorsal fin), Sabca (outer wing and wingtips), HAL (horizontal stabiliser) and Dowty Aerospace (propellers and landing gear).

LANDING GEAR: Dowty retractable tricycle type, with twin wheels on each unit. Main units attached to wings, retracting rearward hydraulically into rear extension of engine nacelle; nose unit retracts forward. Long-stroke oleo-pneumatic shock-absorber in each unit (single-stage on nose unit, double-acting on main units). Goodyear wheels and tyres on all units. Standard mainwheel tyres size 34 x 10.75-R16, nosewheel tyres 24 x 7.7-10. Goodyear hydraulic brakes, incorporating anti-skid system. Hydraulic nosewheel steering (±73°). Freecasting angle of ±130° available for towing. Minimum ground turning radius 18.07 m (59 ft 3 3/4 in).

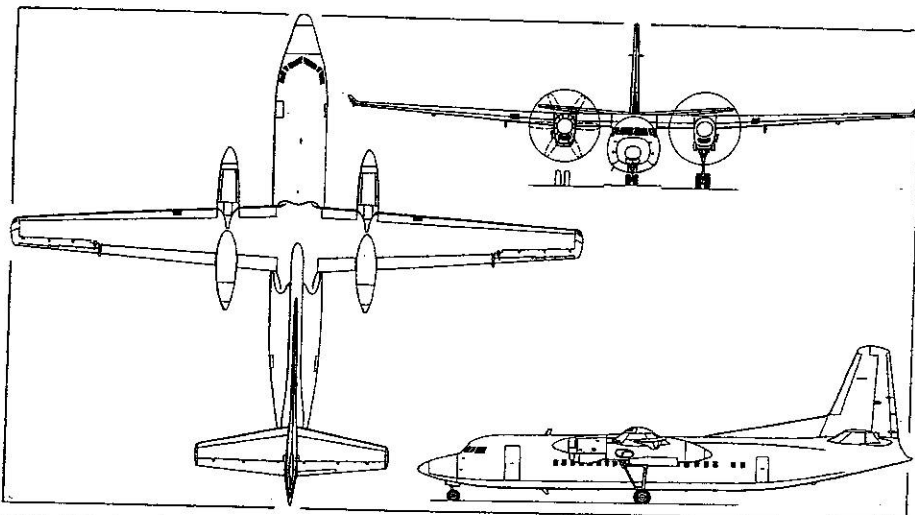
POWER PLANT: Standard Fokker 50 powered by two Pratt & Whitney Canada PW125B turboprops, each flat rated at 1,864 kW (2,500 shp) up to 30°C ambient at S/L. Fokker 50 High Performance powered by P&WC PW127Bs flat rated at 2,050 kW (2,750 shp) up to 30.8°C at S/L. All have specifically designed Dowty Aerospace propellers, with six all-composites blades and Beta control; precise propeller rpm control, plus phase synchronisation of ±2°, reduces aircraft noise. A digital blade matching system eliminates all propeller-induced vibration in the cabin. Fuel in two integral tanks located between two spars of wing box outboard of nacelles, with total capacity of 5,136 litres (1,357 US gallons; 1,130 Imp gallons). Optional centre wing tanks increase total capacity to 7,450 litres

(1,968 US gallons; 1,639 Imp gallons). Single-point pressure refuelling; overwing gravity points.

ACCOMMODATION: Crew of two and observer seat on flight deck; one or two cabin attendants, depending on configuration. Dedicated door concept (every ground handling activity has its own door) gives choice of a four-door configuration, three-door configuration, or three-door with optional multipurpose door. All configurations have a four-abreast layout and 46 cm (18 in) aisle width. Passenger door, with electrically actuated integral airstairs, at front on port side. Four-door Fokker 50 has forward and rear baggage/cargo compartments and rear galley, each serviced/loaded via a dedicated adjacent door enabling turnaround time to be cut to 10 minutes; as Type III emergency exits are not required, layout is flexible from 46 seats at 86 cm (34 in) pitch to 58 seats at 76 cm (30 in); stowage area and lavatory at front of cabin.

Fokker 50 three-door configuration allows number of seats or cargo volume to be increased without detriment to passenger comfort. In this configuration, port rear galley service door is deleted and two Type III emergency exits introduced, galley is at front of cabin and baggage/cargo compartment at rear; cargo wall can be placed at one of four set positions, allowing number of seats and cargo volume to be adjusted. This configuration allows up to 58 seats at 76 cm (30 in) pitch.

SYSTEMS: Hamilton Standard air conditioning system. AirResearch digital cabin pressure control system. Maximum pressure differential 0.38 bar (5.46 lb/sq in). Hydraulic system, operating at 207 bars (3,000 lb/sq in) pressure via two engine-driven Abex pumps, for landing gear actuation, brakes, nosewheel steering and flap drive. De-icing of wing, fin and tailplane leading-edges, uses engine bleed air. Engine air intakes, propeller blades and spinners de-iced electrically. Primary electrical system powered by Sundstrand 30/40 kVA integrated drive generator mounted on propeller gearbox of each engine, supplying 115/200 V three-phase AC at 400 Hz, with two 300 A transformer-rectifiers and two 43 Ah Ni/Cd batteries for 28 V DC power. Auxiliary Power International Corporation (APIC) APS 1000 APU optional. Configured for ground use, APU (combined with Sundstrand 115 V 20 kVA oil-cooled generator, accessory controls and provisions) provides AC self-sufficiency during turnaround cycles, servicing and maintenance.



Fokker 50 twin-turboprop short-haul transport (Jane's/Dennis Punnett)

1994

FOKKER (1)

APU also provides air supply for flight deck and cabin air conditioning and is fitted to fireproof bulkhead aft of wheel bay in starboard nacelle.

AVIONICS: *Comms:* Dual Bendix/King Series II VHF com; Series III ATC transponder with provision for second; Fairchild A100 (ARINC 557) cockpit voice recorder; Collins 346-2B (ARINC 560) PA system; provision for single Collins 628T-2A HF com to ARINC 559A2.

Radar: Honeywell Primus P-650 weather radar with dual presentation on EFIS.

Flight: Dual Bendix/King Series III VHF nav with VOR/ILS and marker beacon receiver; single Bendix/King Series III ADF and DME (latter including frequency hold facility), with provision for second of each. TRT AHV-530A (ARINC 552A) radio altimeter with dual presentation on EFIS; dual Litton LTR 81.01 AHRS; Sundstrand Mk II GPWS (ARINC 549). Honeywell SPZ-9000 AFCS with Cat. I landing (Cat. II optional); dual Honeywell FZ-500 flight director systems; Honeywell AZ-800 air data computer; VLF-Omega or Bendix/King KNS 660 nav system; Teledyne Model 70-275 flight data acquisition unit; Sundstrand 980-4100 DXUS (ARINC 573) flight data recorder, including underwater locator beacon; Dorne & Margolin ELT.

Instrumentation: Dual Honeywell EDZ-806 electronic flight instrument system (EFIS) with CRT displays for primary flight and navigation information, and space provisions for central multifunction display.

DIMENSIONS, EXTERNAL:

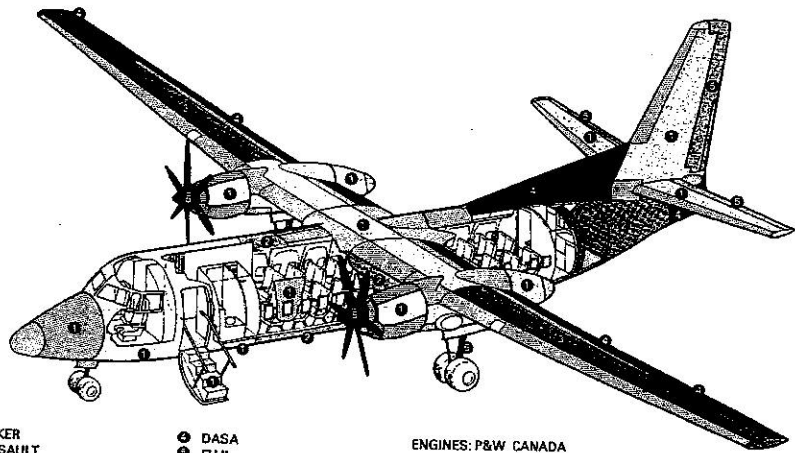
Wing span	29.00 m (95 ft 1 3/4 in)
Wing chord: at root	3.46 m (11 ft 4 1/2 in)
at tip	1.40 m (4 ft 7 in)
Wing aspect ratio	12.0
Length overall	25.25 m (82 ft 10 in)
Fuselage: Max width	2.70 m (8 ft 10 1/4 in)
Height overall (static)	8.32 m (27 ft 3 1/2 in)
Tailplane span	9.75 m (31 ft 1 1/2 in)
Wheel track	7.20 m (23 ft 7 1/2 in)
Wheelbase	9.70 m (31 ft 10 in)
Propeller diameter	3.66 m (12 ft 0 in)
Propeller ground clearance	1.16 m (3 ft 9 1/4 in)
Propeller fuselage clearance	0.59 m (1 ft 11 1/4 in)
Passenger door (fwd, port): Height	1.78 m (5 ft 10 in)
Width	0.76 m (2 ft 6 in)

Other manufacturers' contributions to the Fokker 50

Service door (rear, port) and cargo door (fwd, stbd), each:	
Height	1.27 m (4 ft 2 in)
Width	0.61 m (2 ft 0 in)
Standard cargo door (rear, stbd):	
Height	1.27 m (4 ft 2 in)
Width	0.86 m (2 ft 9 1/4 in)
Optional multipurpose door (rear, port):	
Height	1.65 m (5 ft 5 in)
Width	1.30 m (4 ft 3 1/4 in)
DIMENSIONS, INTERNAL:	
Cabin, excl flight deck: Length	15.96 m (52 ft 4 in)
Width at floor	2.11 m (6 ft 11 in)
Max width	2.50 m (8 ft 2 1/2 in)
Max height	1.96 m (6 ft 5 1/4 in)
Floor area (excl toilet)	30.2 m ² (325 sq ft)

ENGINES: P&W CANADA

(final assembly, integration and flight testing: Fokker)



FOKKER
DASSAULT
SABCA

DASA
FUJI
DOWTY R.

1996

Baggage/cargo volume (standard commuter version):	
Main compartments	7.4 m ³ (261 cu ft)
Wardrobe compartment	0.82 m ³ (29.0 cu ft)
Overhead bins	2.2 m ³ (78 cu ft)

AREAS:

Wings, gross	70.00 m ² (753.5 sq ft)
Ailerons (total)	4.123 kg (9,090 lb)
Trailing-edge flaps (total)	3.66 m ² (39.40 sq ft)
Fin, incl dorsal fin	17.15 m ² (184.60 sq ft)
Rudder, incl tab	17.60 m ² (189.44 sq ft)
Tailplane	3.17 m ² (34.12 sq ft)
Elevators (total, incl tab)	16.00 m ² (172.22 sq ft)
	3.17 m ² (34.12 sq ft)

WEIGHTS AND LOADINGS (Fokker 50):

Typical operating weight empty	12,520 kg (27,602 lb)
Max fuel load: standard	4,123 kg (9,090 lb)
*optional	5,980 kg (13,184 lb)
Max structural payload	6,080 kg (13,404 lb)
Max ramp weight: standard	19,990 kg (44,070 lb)
optional	20,865 kg (46,000 lb)
Max T-O weight: standard	19,950 kg (43,980 lb)
optional	20,820 kg (45,900 lb)
Max landing weight: standard	19,500 kg (42,990 lb)
optional	19,730 kg (43,500 lb)
Max zero-fuel weight	18,600 kg (41,000 lb)
Max wing loading: standard	285.0 kg/m ² (58.37 lb/sq ft)
optional	297.4 kg/m ² (60.92 lb/sq ft)

Max power loading:

Fokker 50: standard	5.35 kg/kW (8.80 lb/shp)
optional	5.59 kg/kW (9.18 lb/shp)
Fokker 50 High Performance:	
standard	4.89 kg/kW (8.00 lb/shp)
optional	5.08 kg/kW (8.35 lb/shp)

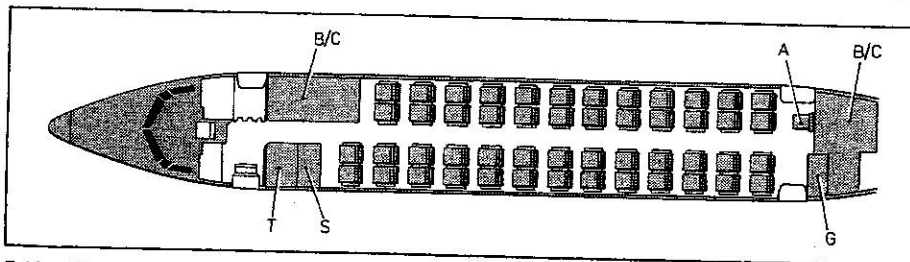
*including optional centre-wing tanks; operating weight empty increased by 165 kg (364 lb)

WEIGHTS AND LOADINGS (Fokker 50 Utility): As Fokker 50 except:

Max ramp weight: optional I	20,865 kg (46,000 lb)
optional II	21,590 kg (47,600 lb)
Max T-O weight: optional I	20,820 kg (45,900 lb)
optional II	21,545 kg (47,500 lb)
Max wing loading:	
optional I	297.4 kg/m ² (60.92 lb/sq ft)
optional II	307.8 kg/m ² (63.06 lb/sq ft)
Max power loading:	
PW125B: standard	5.35 kg/kW (8.80 lb/shp)
optional I	5.59 kg/kW (9.18 lb/shp)
optional II	5.78 kg/kW (9.50 lb/shp)
PW127B: standard	4.89 kg/kW (8.00 lb/shp)
optional I	5.08 kg/kW (8.35 lb/shp)
optional II	5.25 kg/kW (8.64 lb/shp)

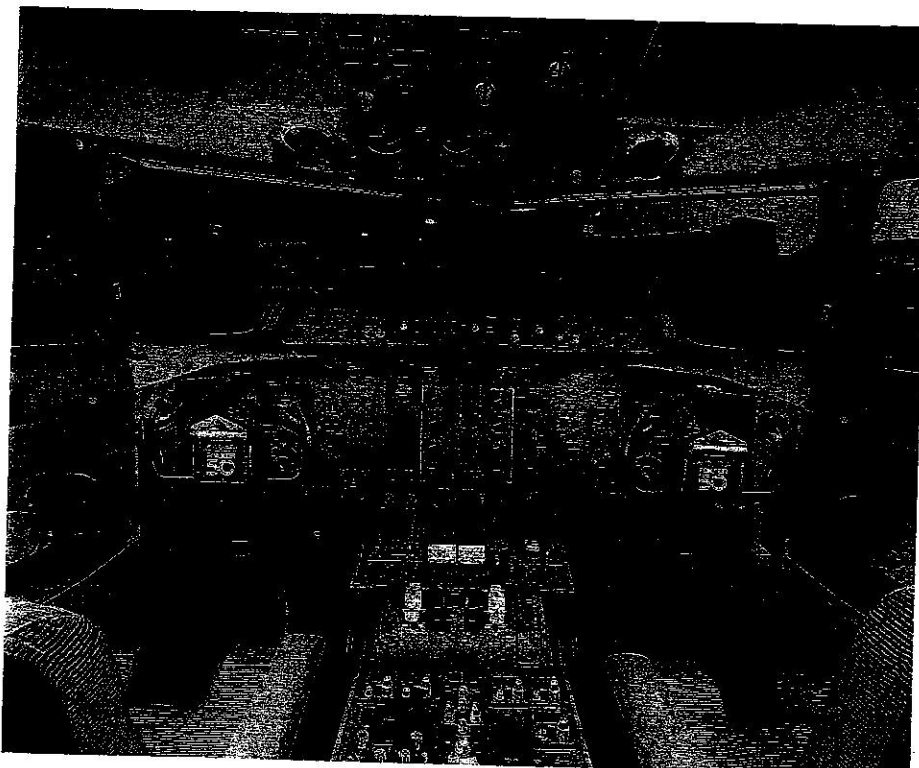
PERFORMANCE (Fokker 50 with PW125B engines):

Max operating Mach No. (Mmo)	0.507
Typical cruising speed	282 kt (522 km/h; 324 mph)
Typical climb speed	170 kt (315 km/h; 196 mph) CAS
Typical descent speed	227 kt (421 km/h; 261 mph) CAS
Max operating altitude	7,620 m (25,000 ft)
Service ceiling, OEI, typical mission weight of 17,770 kg (39,176 lb), ISA	4,300 m (14,100 ft)
Runway LCN (51 cm; 20 in flexible pavement), 34 x 10.75-R16 tyres at 5.86 bars (85 lb/sq in):	
AUW of 19,050 kg (42,000 lb)	16.9
AUW of 20,820 kg (45,900 lb)	18.4
T-O field length for typical mission T-O weight at S/L, ISA, 15° flap	890 m (2,920 ft)
Landing field length for typical mission landing weight at S/L, ISA, 35° flap	1,017 m (3,340 ft)
Range with 50 passengers and baggage, reserves for 45 min continued cruise at long-range schedule and	



Fokker 50 standard configuration (50 seats at 81 cm; 32 in pitch) (*Jane's/Mike Keep*)
A: attendant seat; B: baggage; C: cargo; G: galley; S: stowage; T: toilet

1993



FOKKER (2)

high-speed procedure

1,109 n miles (2,054 km; 1,276 miles)

min fuel procedure

1,216 n miles (2,252 km; 1,399 miles)

at optional max T-O weight:

high-speed procedure

1,535 n miles (2,843 km; 1,766 miles)

min fuel procedure

1,665 n miles (3,083 km; 1,916 miles)

PERFORMANCE (Fokker 50 Utility):

Range:

50 passengers 1,818 n miles (3,366 km; 2,092 miles)

5,000 kg (11,023 lb) cargo

1,865 n miles (3,454 km; 2,146 miles)

48 troops 1,348 n miles (2,496 km; 1,551 miles)

27 stretchers 2,013 n miles (3,728 km; 2,316 miles)

PERFORMANCE (Fokker 50 High Performance, PW127B engines):

As Fokker 50/PW125B engines except:

Service ceiling OEL, typical mission weight 17,830 kg

(39,308 lb), ISA 4,970 m (16,300 ft)

T-O field length for typical mission T-O weight at S/L, ISA, 15° flap 850 m (2,790 ft)

Landing field length for typical mission landing weight at S/L, ISA, 35° flap 1,015 m (3,330 ft)

Range with 50 passengers and baggage, reserves for 45 min continued cruise at long-range schedule and 87 n mile (161 km; 100 mile) diversion:

at standard max T-O weight:

high-speed procedure

1,097 n miles (2,031 km; 1,262 miles)

min fuel procedure

1,186 n miles (2,196 km; 1,365 miles)

at optional max T-O weight:

high-speed procedure

1,521 n miles (2,817 km; 1,750 miles)

min fuel procedure

1,628 n miles (3,015 km; 1,873 miles)

OPERATIONAL NOISE LEVELS (Fokker 50):

T-O 81.0 EPNdB

Approach 96.7 EPNdB

Sideline 85.0 EPNdB

OPERATIONAL NOISE LEVELS (Fokker 50 High Performance, PW127B engines):

T-O 81.5 EPNdB

Approach 96.7 EPNdB

Sideline 85.0 EPNdB

UPDATED

FOKKER 60

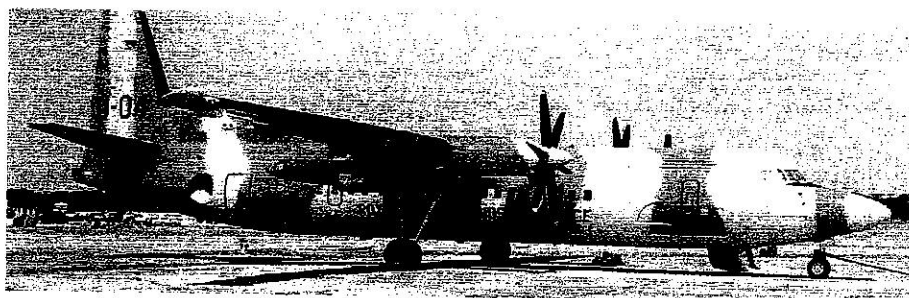
TYPE: Twin-turboprop transport; stretched version of Fokker 50.

PROGRAMME: RNethAF order for four placed February 1994 launched full development; mainly for non-airline customers; first flight (U-01) 2 November 1995; first deliveries (U-02 and U-03) 10 June 1996.

CURRENT VERSIONS: Fokker 60: Baseline aircraft. Details refer mainly to this version, but where indicated to Fokker 60 Utility.

Fokker 60 Utility: A 1.62 m (5 ft 3 3/4 in) stretched version of the Fokker 50 three-door configuration; normally equipped with upward-opening, starboard front large cargo door (height 1.78 m; 5 ft 10 in, width 3.05 m; 10 ft 0 in) and a heavy-duty floor; multipurpose door (height 1.65 m; 5 ft 5 in, width 1.30 m; 4 ft 3 3/4 in) available as an option. Fokker 60 Utility launched February 1994. Applications include:

Staff transport: As a (corporate) shuttle the Fokker 60 can carry up to 68 passengers, depending on cabin layout.



U-04, the last Fokker 60 Utility for the Royal Netherlands Air Force (Paul Jackson)

1997

The aircraft is equipped with passenger seats, overhead bins (including PSUs), carpet, toilet, galley and a rear cabin wall. **Logistics transport:** The Fokker 60 offers 34.4 m² (370 sq ft) floor area and is equipped with the large cargo door. This door allows loading of large outside items, including LD3 containers. Both aircraft can be equipped with a roller track and ballmat system. **Convertible transport:** Both the Fokker 50 Utility and Fokker 60 Utility can be changed from a passenger layout into an all-cargo aircraft. The aircraft is equipped with a removable aft cargo wall, removable overhead bins (including PSUs), passenger seats, galley and toilet. **Tactical transport:** The tactical transport version is normally equipped with the multipurpose door. The aircraft can be used for (para)troop transport, supply dropping and medical evacuation (medevac) operations. For (para)troop transport and supply dropping the aircraft is equipped with seat/litter modules (Fokker 50 Utility, 48 seats; Fokker 60 Utility, 55 seats), para/supply-dropping gear and adaptations (lighting and communication). For medevac operations the aircraft is equipped with stretchers (Fokker 50 Utility, 27 stretchers; Fokker 60 Utility, 30 stretchers).

Fokker passenger transport: Passenger version for 60 passengers for official or commercial use being studied. **CUSTOMERS:** RNethAF ordered four Fokker 60 Utility in February 1994 for No. 334 Squadron at Eindhoven. First flight 2 November 1995; initial deliveries (two) 10 June 1996.

POWER PLANT: Two 2,050 kW (2,750 shp) Pratt & Whitney Canada PW127B.

DIMENSIONS, EXTERNAL: As for Fokker 50 except:

Length overall 26.87 m (88 ft 2 in)
Height overall 8.34 m (27 ft 4 1/2 in)
Wheelbase 10.72 m (35 ft 2 in)

DIMENSIONS, INTERNAL: As for Fokker 50 except:

Cabin, excl flight deck: Length 16.87 m (55 ft 4 1/4 in)
Floor area (excl toilet) 34.4 m² (370 sq ft)
Volume 65.0 m³ (2,295 cu ft)
Baggage/cargo volume (standard commuter version):
Main compartment 10.9 m³ (386 cu ft)
Overhead bins 2.6 m³ (91 cu ft)

AREAS: As for Fokker 50

WEIGHTS AND LOADINGS (Fokker 60):

Typical operating weight empty 13,328 kg (29,383 lb)
Max fuel load 4,123 kg (9,090 lb)
Max payload 7,372 kg (16,252 lb)
Max ramp weight: standard 21,995 kg (48,490 lb)
optional 22,995 kg (50,695 lb)
Max T-O weight: standard 21,950 kg (48,391 lb)
optional 22,950 kg (50,596 lb)
Max landing weight 21,750 kg (47,950 lb)
Max zero-fuel weight 20,700 kg (45,653 lb)

Max wing loading:

standard 313.6 kg/m² (64.31 lb/sq ft)
optional 327.9 kg/m² (67.24 lb/sq ft)
Max power loading: standard 5.35 kg/kW (8.80 lb/shp)
optional 5.60 kg/kW (9.20 lb/shp)

WEIGHTS AND LOADINGS (Fokker 60 Utility):

Typical operating weight empty 12,884 kg (28,404 lb)
Max fuel load: standard 4,123 kg (9,090 lb)
*optional 5,980 kg (13,184 lb)
Max payload 7,816 kg (17,231 lb)
Max ramp weight 22,955 kg (50,607 lb)
Max T-O weight 22,950 kg (50,596 lb)
Max landing weight 21,750 kg (47,950 lb)
Max zero-fuel weight 20,700 kg (45,653 lb)
Max wing loading 327.9 kg/m² (67.24 lb/sq ft)
Max power loading 5.60 kg/kW (9.20 lb/shp)
*including optional centre-wing tanks; OWE increased by 165 kg (364 lb)

PERFORMANCE:

Max operating Mach No. (Mmo) 0.507
Typical cruising speed 280 kt (519 km/h; 332 mph)
Typical climb speed 170 kt (315 km/h; 196 mph)
Typical descent speed 250 kt (463 km/h; 288 mph)
Max operating altitude 7,620 m (25,000 ft)
Service ceiling OEL, typical mission, AOW of 19,554 kg (43,109 lb), ISA 4,080 m (13,380 ft)
T-O field length for typical mission T-O weight at S/L, ISA, 15° flap 1,054 m (3,460 ft)
Landing field length for typical mission landing weight at S/L, ISA, 35° flap 1,118 m (3,670 ft)
Range (Fokker 60) with 60 passengers and baggage, reserves for 45 min continued cruise at long-range schedule and 87 n mile (161 km; 100 mile) diversion:
at standard max T-O weight:
high-speed procedure 1,108 n miles (2,052 km; 1,275 miles)
min fuel procedure 1,188 n miles (2,200 km; 1,367 miles)
at optional MTOW:
high-speed procedure 1,488 n miles (2,757 km; 1,712 miles)
min fuel procedure 1,596 n miles (2,956 km; 1,836 miles)
Range (Fokker 60 Utility):
60 passengers or 50 troops 1,600 n miles (2,963 km; 1,841 miles)
7,000 kg (15,432 lb) 1,050 n miles (1,944 km; 1,208 miles)
27 stretchers 1,700 n miles (3,148 km; 1,956 miles)
OPERATIONAL NOISE LEVELS:
Comply with ICAO Annex 16, Chapter 3/FAR Pt 36, Stage 3

UPDATED

FOKKER 100

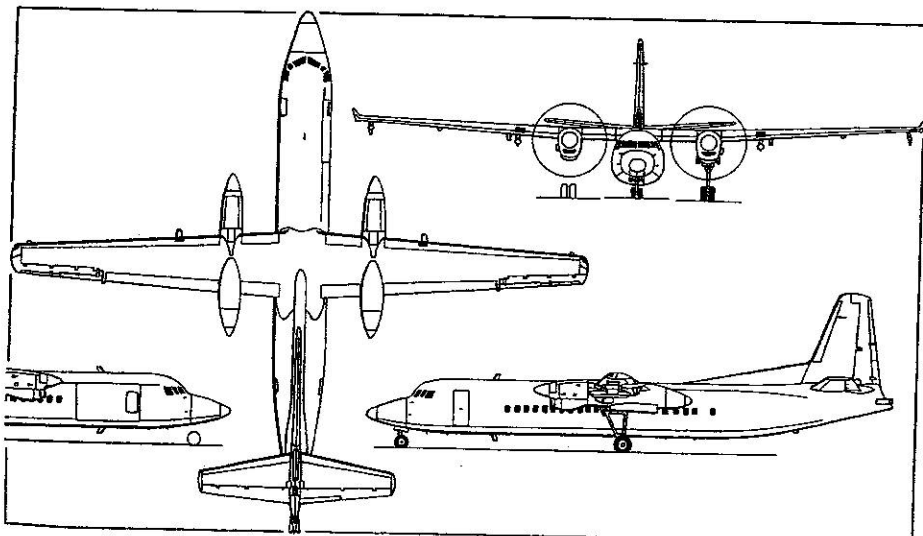
TYPE: Twin-turboprop short/medium-haul airliner.

PROGRAMME: Announced simultaneously with Fokker 50 on 24 November 1983; derived from F28 Mk 4000, which it superseded in production; built in collaboration with Daimler-Benz Aerospace Airbus and Shorts; first flights (PH-MKH) 30 November 1986 and (PH-MKC) 25 February 1987; complies with FAR Pt 36 Stage 3 noise requirements; Dutch RLD certification to JAR 25 on 20 November 1987, followed by Cat. IIIb autoland certificate June 1988.

First aircraft delivered to Swissair 29 February 1988; FAA type approval granted 30 May 1989; certification of version with the higher rated Tay Mk 650 (first flown on PH-MKH on 8 June 1988) received on 1 July 1989; first delivery of Tay Mk 650 version same day to USAir.

CURRENT VERSIONS: Fokker 100: Standard airliner; description applies to this version.

Fokker 100QC: Quick-change version manufactured as standard Fokker 100 and modified to QC specification by a subcontractor; 20 minute changeover by three-person ground crew. Modifications include large (3.40 x 1.93 m; 11 ft 2 in x 6 ft 4 in) cargo door at front on port side; 11 seat pallets (interchangeable with cargo containers). Capacity in all-cargo role for five LD9/LD7 containers plus one half-size container, or up to 11 LD3 containers. Maximum structural payload 11,500 kg (25,353 lb), range with



Fokker 60 Utility with defensive aids under wings and in the tail, plus scrap view of large door on starboard side of forward fuselage (Jane's/Mike Keep)

1995

FOKKER (3)

typical 10,000 kg (22,046 lb) cargo load estimated at more than 1,600 n miles (2,963 km; 1,841 miles). All-passenger version seats 88 with smaller overhead bins and additional side bins.

Fokker 70: Shortened version; described separately.
Fokker Executive Jet 100: VIP/Corporate Shuttle version; extended range optional on Executive Jet 100ER with belly tanks; interior custom-built.

Fokker 130: Planned stretched version; 30 per cent of design work completed before announcement of company bankruptcy.

Fokker marketed the Fokker 100 and Fokker 70 as the Fokker JetLine.

CUSTOMERS: Firm orders totalled 290 Fokker 100s by December 1995, of which 250th was delivered June 1994, although some orders were cancelled in the light of Fokker's difficulties. By March 1997, Fokker had built 283 aircraft.

Deliveries were made to: Air Europe (nine); Air Gabon (one); Air Inter (five); Air Ivorie (one); Air Littoral (four); American Airlines (75); Aviacsa (four); Bangkok Airways (one); British Midland (four); China Eastern (10); Formosa Airlines (two); Garuda (five); Inter-Canadian (seven); Iran Air (seven); Ivory Coast government (one); KLM (six); Korean Air (12); Merpati Nusantara (one); Mexicana (10); Midway (eight); Palair Macedonian (three); Pelita (one); Portugal (four); Royal Swazi National Airways Corporation (one); Sempati (nine); Swissair (10); TABA Brazil (two); TAM Brazil (22); TAT (12); Transwede (six); US Air (38). Fokker retained the two prototypes.

DESIGN FEATURES: Compared to F28 Mk 4000, Fokker 100 has stretched fuselage, extended and redesigned wings, Rolls-Royce Tay turbofans, completely new CRT and digital ARINC 700 flight deck, lowest OWE/seat in its class, new cabin interior, and extensively modernised systems, considerable use of composites materials.

Major options include intermediate (44,450 kg; 98,000 lb) and high (45,810 kg; 101,000 lb) maximum T-O weights, higher thrust Tay Mk 650 engines; higher capacity air conditioning system; forward toilet. Moving belt loading system.

Fokker designed transonic wing sections, offering substantially improved aerodynamic efficiency, especially at high speed; thickness/chord ratio up to 12.3 per cent on inner panels; 9.6 per cent at tip; dihedral 2° 30'; sweepback at quarter-chord 17° 27'. Fokker incorporated design changes developed for the Fokker 70 on the Fokker 100; these include modernised JetLine interior and enhanced avionics capability; both aircraft may be operated by flight crews under a common type rating.

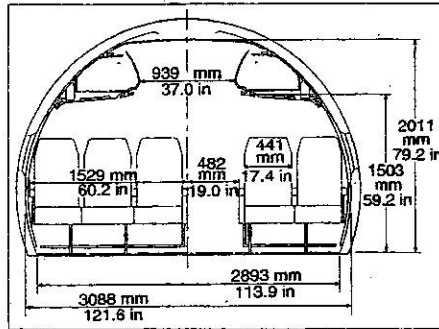
FLYING CONTROLS: Hydraulically actuated; fully powered ailerons (in third mode, both ailerons driven manually with assistance of unlockable servo tabs), boosted elevators with manual back-up, and powered rudder with manual third mode; variable incidence tailplane (third mode is electric operation); double-slotted Fowler flaps with electrical alternative extension; five-panel lift dumpers in front of flaps on each wing; sideways-opening airbrakes form rear end of fuselage.

STRUCTURE: Light alloy, fail-safe hot-bonded for 45,000-cycle crack-free life and 90,000-cycle economic repair life; except for CFRP ailerons and flaps, AFRP wing/fuselage fairing panels, honeycomb sandwich/multiple spar fin, AFRP dorsal fin, CFRP rudder, and CFRP/GFRP with Nomex core quickly detachable sandwich floor panels. Nacelles manufactured from composites materials. Daimler-Benz Aerospace Airbus built large fuselage sections and tail section, wings by Shorts; engine nacelles and thrust reversers by Northrop Grumman.

LANDING GEAR: Hydraulically retractable tricycle type, with twin wheels on each unit. Main units, by Menasco, retract inward into wing/body fairing; nosewheels, by Dowty, retract forward; shock-absorber in each unit; Goodyear tyres, size H40 x 14-19 on main units (pressure 9.38 bars; 136 lb/sq in), size 24 x 7-10 (pressure 6.21 bars; 90 lb/sq in) on nose unit; Lorai multiple-disc carbon brakes, with anti-skid and taxi brake select systems; steerable nose unit (effective angle about 76°); minimum pavement width for 180° turn, 22.2 m (72 ft 10 in).

POWER PLANT: Two 61.6 kN (13,850 lb st) Rolls-Royce Tay Mk 620 turbofans, fitted with thrust reversers and pylon-mounted on sides of rear fuselage; option of 67.2 kN (15,100 lb st) Tay Mk 650 turbofans. Fuel in 4,820 litre (1,274 US gallon; 1,060 Imp gallon) main tank in each wing as standard. From 1993, at same time as 45,810 kg (101,000 lb) MTOW option, an integral centre-wing tank with capacity of 3,725 litres (984 US gallons; 819 Imp gallons) became standard, and replaced original bag tanks, bringing total capacity to 13,365 litres (3,531 US gallons; 2,940 Imp gallons). Refuelling point under starboard wing, near wing/fuselage belly fairing. Oil capacity (two engines) 41 kg (90 lb).

ACCOMMODATION: Crew of two on flight deck; three cabin attendants. Standard accommodation for 107 passengers, in five-abreast seating at 81 cm (32 in) pitch. Optional layouts include 12 first class seats (four-abreast) at 91 cm (36 in) pitch plus 85 economy class (five-abreast) at 81 cm (32 in); 55 business class at 88 cm (34 in) plus 50 economy



Cabin cross-section of standard Fokker 100 and 70

1996

toilets, two wardrobes, two other storages/wardrobe compartments, offering a total of 8.2 m³ (288 cu ft) of carry-on baggage space, including overhead bins. Oxygen system for crew and passengers. Outward- and forward-opening passenger door at front of cabin on port side. Outward- and forward-opening service/emergency door opposite on starboard side. Optional downward-opening passenger door with integral stairs. Optional service/emergency door on port side of aft cabin permits seating capacity to be increased to 122. Two overwing emergency exits (inward-opening plug type) on each side. Two underfloor baggage/cargo holds (one forward of wing, one aft), with three identical, upward-opening cargo doors on starboard side. Option for a moving belt loading system.

SYSTEMS: AiResearch air conditioning and pressurisation system (maximum differential 0.52 bar; 7.45 lb/sq in). Two fully independent hydraulic systems for actuation of flight control surfaces, landing gear, brakes and nosewheel steering. AiResearch pneumatic system; Sundstrand integrated drive generator electrical supply system. AiResearch thermal anti-icing system for wings and tail unit. Electric anti-icing of flight deck windows, pitot tubes, static vents, angle of attack vanes and ice detector probe.

AlliedSignal GTC36-150RR APU standard, with digital control; can be started and operated up to 10,670 m (35,000 ft).

AVIONICS: *Comms:* Standard equipment includes dual VHF com (ARINC 716) with third optional; single ATC transponder (ARINC 718) with second optional; cockpit voice recorder (ARINC 557); digitally controlled audio management system (ARINC 736); PA system (ARINC 715); music reproducer. Dual HF com (ARINC 719) optional; Selcal (ARINC 714) optional; datalink (optional).

Radar: ARINC 708 weather radar.

Flight: Standard navigation equipment includes dual VOR with marker beacon receiver (ARINC 711); dual ILS (ARINC 710); dual DME (ARINC 709); single ADF (ARINC 712); dual radio altimeters (ARINC 707). Collins

digital aircraft flight control and augmentation system (AFCAS) for Cat. II approaches plus dual-channel full flight regime autothrottle system; Collins flight management system with integrated global positioning system (FMS/GPS) (ARINC 756); dual IRS (ARINC 704) and YRS (ARINC 705); dual digital air data systems (ARINC 706); digital flight acquisition unit (ARINC 717); flight data recorder (ARINC 717); ground proximity warning system (ARINC 723); flight warning computer system (ARINC 726) with full flight envelope protection. Options include aircraft condition monitoring system (ARINC 717); ACARS (ARINC 724); TCAS (ARINC 735); windshear warning system; Cat. IIIa or Cat. IIIb (75 m; 250 ft RVR and no DH) autoland capability; dual FMS/GPS and third IRS.

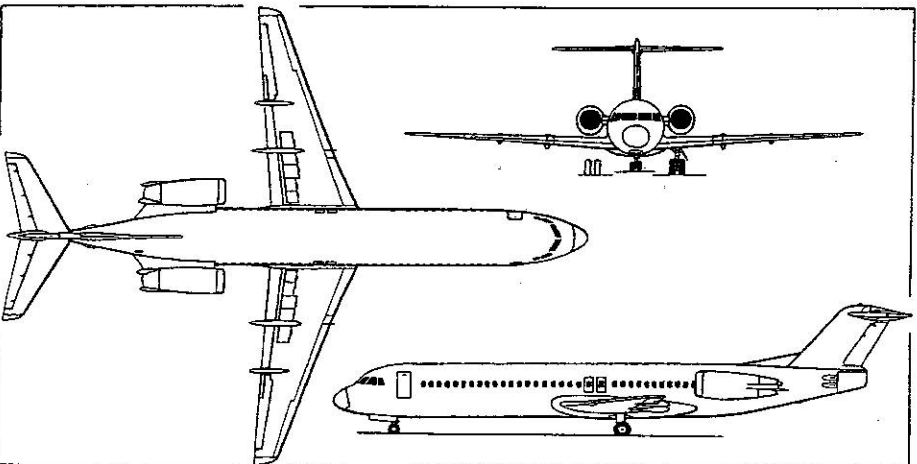
Instrumentation: Collins EFIS electronic flight instrument system with primary flight display (PFD) for each pilot, and multifunction display system (MFDS), consisting of two CRTs on centre flight instrument display panel; PFDs and MFDSs identical in size; dark cockpit philosophy emphasised in every system. New centralised fault display unit (CFDU) on port side of flight deck entrance has replaced maintenance test panel.

DIMENSIONS, EXTERNAL:

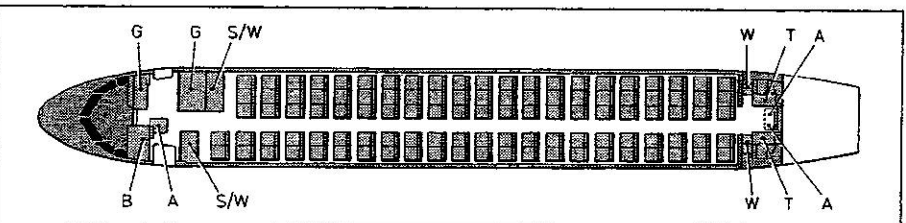
Wing span	28.08 m (92 ft 1 1/4 in)
Wing chord: at root	5.28 m (17 ft 4 in)
at tip	1.26 m (4 ft 1 1/2 in)
Wing aspect ratio	8.4
Length overall	35.53 m (116 ft 6 1/4 in)
Fuselage: Length	32.50 m (106 ft 7 1/2 in)
Max diameter	3.30 m (10 ft 10 in)
Height overall	8.51 m (27 ft 10 1/2 in)
Tailplane span	10.04 m (32 ft 11 1/4 in)
Wheel track (c/l of shock-struts)	5.04 m (16 ft 6 1/2 in)
Wheelbase	14.01 m (45 ft 11 1/2 in)
Passenger door (fwd, port): Height	1.82 m (6 ft 1 in)
Width	0.78 m (2 ft 6 1/4 in)
Service door (fwd, stbd): Height	1.30 m (4 ft 3 in)
Width	0.63 m (2 ft 1 in)
Cargo compartment doors (fwd and rear, stbd):	
Height (each)	1.43 m (4 ft 8 1/4 in)
Width (each)	1.44 m (4 ft 8 3/4 in)
Height to sill (MTOW):	
fwd hold, fwd door	1.20 m (3 ft 10 1/4 in)
fwd hold, rear door	1.27 m (4 ft 2 1/2 in)
aft hold door	1.36 m (4 ft 6 in)
Overwing emergency exits (four):	
Height (each)	0.91 m (3 ft 0 in)
Width (each)	0.51 m (1 ft 8 in)

DIMENSIONS, INTERNAL:

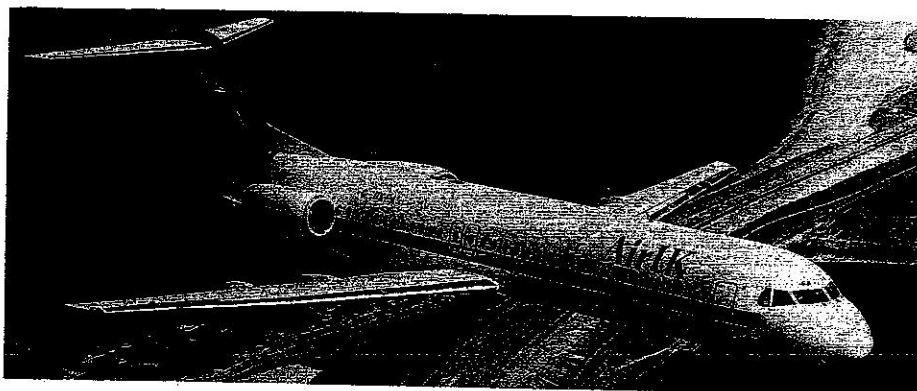
Cabin, excl flight deck: Length	21.19 m (69 ft 6 1/4 in)
Max length of seating area	18.80 m (61 ft 8 1/4 in)
Max width	3.10 m (10 ft 2 in)
Width at floor	2.89 m (9 ft 5 1/2 in)
Max height	2.01 m (6 ft 7 1/4 in)
Max floor area	58.5 m ² (630 sq ft)
Max volume	107.6 m ³ (3,799 cu ft)
Overhead storage bins (total)	5.2 m ³ (182 cu ft)
Additional baggage space (total)	3.0 m ³ (106 cu ft)



Fokker 100 short/medium-haul transport (two Rolls-Royce Tay turbofans) (Jane's/Dennis Punnett) 1993

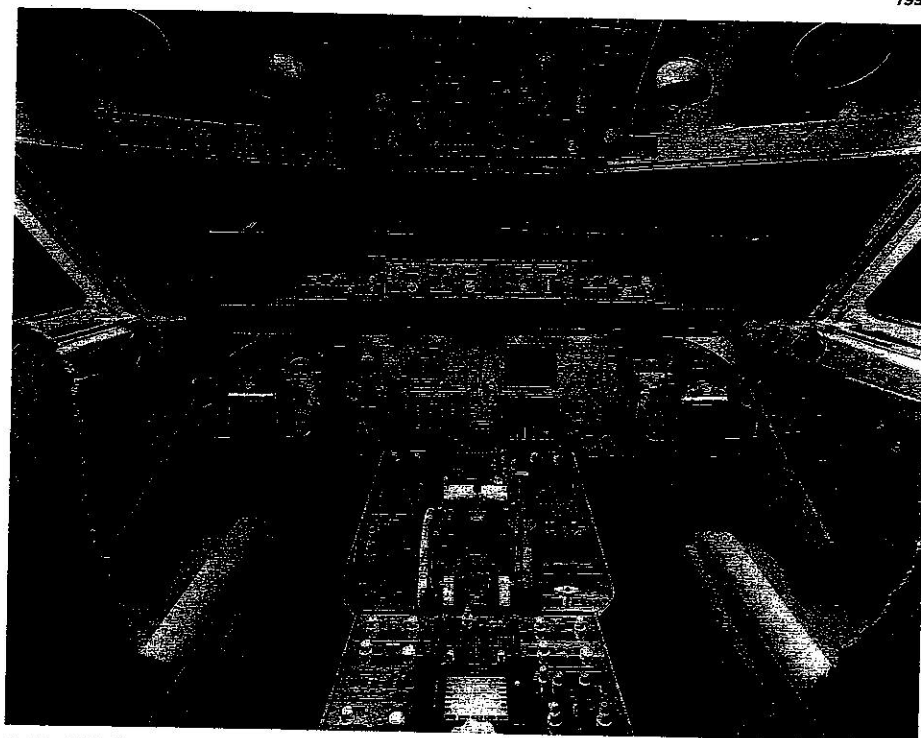


FOKKER (4)



Fokker 100 operated by Air UK

1996



Fokker 100/70 flight deck showing large-screen EFIS, control systems displays and two flight management control and display panels on centre console. Autopilot controls are just beneath the glareshield

1996

Underfloor compartment volume:

fwd	9.5 m ³ (335 cu ft)
aft	7.2 m ³ (256 cu ft)

AREAS:

Wings, gross	93.50 m ² (1,006.4 sq ft)
Ailerons (total)	3.53 m ² (37.98 sq ft)
Trailing-edge flaps (total)	17.08 m ² (183.85 sq ft)
Lift dumpers, total	5.30 m ² (57.05 sq ft)
Fins	10.00 m ² (107.64 sq ft)
Rudder	2.30 m ² (24.76 sq ft)
Tailplane	17.76 m ² (191.20 sq ft)
Elevators (total)	3.96 m ² (42.63 sq ft)
Airbrakes (total)	3.62 m ² (38.97 sq ft)

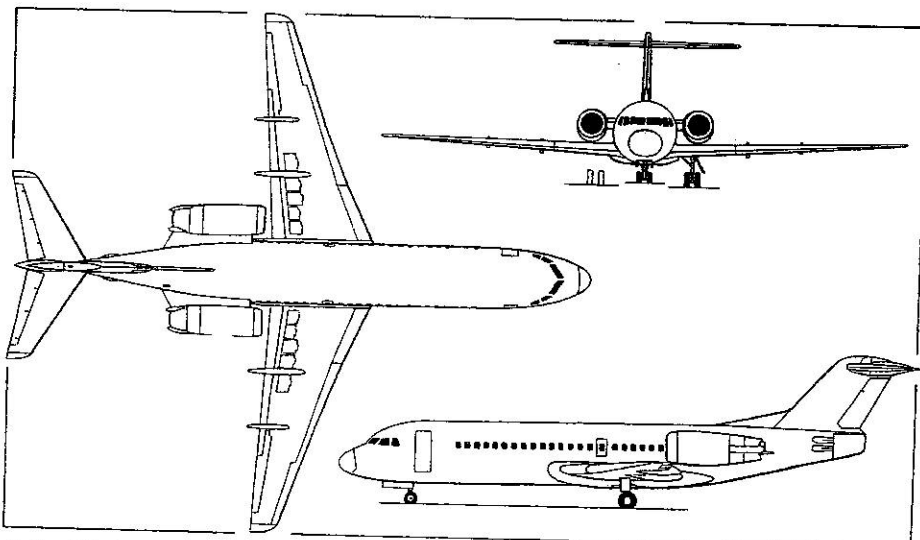
WEIGHTS AND LOADINGS (A: standard weights, Tay 620, B: intermediate gross weight and Tay 650, C: high gross weight and Tay 650):

Typical operating weight empty:

A	24,593 kg (54,217 lb)
B	24,727 kg (54,514 lb)
C	24,747 kg (54,558 lb)
Max payload (weight-limited): A	11,108 kg (24,486 lb)
B	12,013 kg (26,486 lb)
C	11,993 kg (26,442 lb)
Max ramp weight: A	43,320 kg (95,500 lb)
B	44,680 kg (98,500 lb)
C	46,040 kg (101,500 lb)
Max T-O weight: A	43,090 kg (95,000 lb)
B	44,450 kg (98,000 lb)
C	45,810 kg (101,000 lb)
Max landing weight: A	38,780 kg (85,500 lb)
B, C	39,915 kg (88,000 lb)
Max zero-fuel weight: A	35,830 kg (78,990 lb)
B, C	36,740 kg (81,000 lb)
Max wing loading: A	460.8 kg/m ² (94.39 lb/sq ft)
B	475.4 kg/m ² (97.37 lb/sq ft)
C	489.9 kg/m ² (100.35 lb/sq ft)
Max power loading: A	350 kg/kN (3.43 lb/lb st)
B	331 kg/kN (3.25 lb/lb st)
C	341 kg/kN (3.34 lb/lb st)

PERFORMANCE (A, B and C as in Weights and Loadings):

Max operating Mach No.	0.77
Max operating speed at 7,770 m (25,500 ft), ISA:	
A, B, C	462 kt (856 km/h; 532 mph)
Approach speed at max landing weight:	
A	128 kt (237 km/h; 147 mph)
B, C	130 kt (241 km/h; 150 mph)
Service ceiling	10,670 m (35,000 ft)



Fokker 70, shortened version of the Fokker 100 (Jane's/Dennis Punnett)

1993

A	1,855 m (6,090 ft)
B	1,720 m (5,645 ft)
C	1,825 m (5,990 ft)
FAR landing field length at S/L, ISA, at max landing weight: A	1,320 m (4,330 ft)
B, C	1,350 m (4,420 ft)
Range with 107 passengers and baggage:	
A	1,290 n miles (2,389 km; 1,484 miles)
B	1,550 n miles (2,870 km; 1,784 miles)
C	1,680 n miles (3,111 km; 1,933 miles)
OPERATIONAL NOISE LEVELS: Comply with FAR Pt 36 Stage 3, ICAO Annex 16 Chapter 3, Washington National night time limits and Orange County (SNA) Class E exempt. (A, B and C as for Weights and Loadings):	
T-O, flyover, actual: A	83.4 EPNdB
B	81.8 EPNdB
C	82.7 EPNdB
T-O, flyover, margin to Pt 36, St 3: A	-5.6 EPNdB
B	-7.2 EPNdB
C	-6.3 EPNdB
T-O, sideline, actual: A	89.3 EPNdB
B	91.7 EPNdB
C	91.6 EPNdB
T-O, sideline, margin to Pt 36, St 3: A	-3.4 EPNdB
B	-3.2 EPNdB
C	-3.4 EPNdB
Approach, actual: A	93.1 EPNdB
B	93.0 EPNdB
C	93.0 EPNdB
Approach, margin to Pt 36, St 3: A	-5.6 EPNdB
B	-5.8 EPNdB
C	-5.9 EPNdB

UPDATED

FOKKER 70

TYPE: Twin-turboprop short/medium-haul airliner.

PROGRAMME: Authorisation to proceed given November 1992; programme launched June 1993 with orders for 15 aircraft (see Customers); fuselage structure derived from Fokker 100 by removing two fuselage plugs (one forward and one aft of wing); assembled on same production line as Fokker 100; built in collaboration with Daimler-Benz Aerospace Airbus (fuselage sections) and Shorts (wing); modification of second Fokker 100 prototype into Fokker 70 configuration started 9 October 1992; first flight (PH-MKC) 2 April 1993; final assembly of first production aircraft started February 1994; first flight (PH-MKS) 12 July 1994; RLD and FAA certification granted 14 October 1994; first delivery (N322K ex PH-MKS to Ford Motor Company) 25 October 1994; UK CAA certification April 1995.

CURRENT VERSIONS: Fokker 70: Standard airliner; description applies to this version.

Fokker Executive Jet 70: VIP/corporate shuttle version; extended range available optionally with belly tanks; interior custom built. First delivery 25 October 1994 to Ford Motor Company.

Fokker Executive Jet 70ER: Long-range executive version with increased fuel capacity extending range to 3,237 n miles (6,000 km; 3,728 miles); first (and so far only) delivery 15 December 1995 to Kenyan government. **CUSTOMERS:** Firm orders totalled 71 by December 1995, some of which were cancelled. By March 1997, 48 Fokker 70s had been produced and delivered to Air Littoral (five); Austrian Air Lines (four); Avianova (six); British Midland (three); Dutch government (one); Ford Motor Co (three);

FOKKER (5)



Fokker 70 twin-turboprop short/medium-haul airliner of Alitalia regional subsidiary, Avianova

1996

Malev (three); Kenyan Air Force (one); KLM Cityhopper (10, of which two later transferred to Austrian); Mountain West (two); Pelita (one); Sempati (two); Silkair (two); Tyrolean A/W (three); Vietnam Airlines (two).

DESIGN FEATURES: Fuselage 4.62 m (15 ft 2 in) shorter than Fokker 100; one pair of overwing emergency exits removed; Rolls-Royce Tay Mk 620 turboprops; downward-opening passenger door with integral stairs; digital ARJNC 700 CRT flight deck.

Major options include intermediate (38,100 kg; 84,000 lb) and high (41,730 kg; 92,000 lb) maximum T-O weights, forward-opening passenger door, Cat. IIIa autoland capability, integral centre-wing tank, second rear toilet, forward toilet.

Fokker 70 features Fokker 100's transonic wing, offering substantially improved aerodynamic efficiency, especially at high speed; thickness/chord ratio up to 12.3 per cent on inner panels, 9.6 per cent at tip; dihedral 2° 30'; sweepback at quarter-chord 17° 27'.

FLYING CONTROLS: As Fokker 100. Full-time autothrottle; autopilot protection of minimum speed, maximum alpha and maximum speed.

STRUCTURE: As Fokker 100. Deutsche Aerospace Airbus built large fuselage sections and tail section, Shorts the wings; Northrop Grumman was subcontractor for engine nacelles and thrust reversers.

LANDING GEAR: Dunlop tyres size H40 x 14-19 on main units (pressure 8.07 bars; 117 lb/sq in), size 24 x 7.7-10 on nose unit (pressure 6.14 bars; 89 lb/sq in); Loral multiple disc carbon brakes, with anti-skid and taxi brake select systems; minimum pavement width for 180° turn: 18.87 m (61 ft 10 in); steering unlocks after nosewheel is deflected more than 76°; tiller used while taxiing and rudder pedals during take-off/landing.

POWER PLANT: Two 61.6 kN (13,850 lb st) Rolls-Royce Tay Mk 620 turboprops, fitted with thrust reversers and pylon-mounted on sides of rear fuselage. Fuel in 4,820 litre (1,274 US gallon; 1,060 Imp gallon) main tank in each wing as standard. Optional integral centre-wing tank of 3,725 litres (984 US gallons; 819 Imp gallons) brings total capacity to 13,365 litres (3,531 US gallons; 2,940 Imp gallons). Refuelling point under starboard wing, near wing-fuselage belly fairing. Oil capacity (two engines) 41 kg (90 lb).

ACCOMMODATION: Crew of two on flight deck; two cabin attendants. Standard accommodation for 79 passengers in five-abreast seating at 78.5/81 cm (31/32 in) pitch; 80-passenger version also available. Standard layout includes one galley (forward, starboard), one toilet (aft, port), three wardrobes (one forward, starboard, and two aft, port and starboard), and two stowages (one forward, port, and one aft, starboard), offering a total of 8.8 m³ (311 cu ft) of carry-on baggage space (including overhead bins). Outward- and downward-opening passenger door with integral stairs at front of cabin on port side. Outward- and forward-opening service/emergency door opposite on starboard side. Optional passenger door opens outward and forward. One overwing emergency exit (inward-opening plug type) on each side. Two underfloor baggage/cargo holds (one forward of wing, one aft), with two upward-opening doors on starboard side.

SYSTEMS: AiResearch air conditioning and pressurisation system (maximum differential 0.52 bar; 7.45 lb/sq in). Two fully independent hydraulic systems for actuation of flying control surfaces, landing gear, brakes and nosewheel steering. AiResearch pneumatic system. Sundstrand integrated drive generator electrical supply system. Oxygen system for flight crew and passengers. AiResearch thermal anti-icing system for wings and tail unit. Electric anti-icing of flight deck windows, pitot tubes, static vents, angle of attack vanes and ice detector probe.

AlliedSignal GTCF36-150RR APU standard, with digital control; can be started and operated up to 10,670 m (36,000 ft).

AVIONICS: As for Fokker 100.

DIMENSIONS, EXTERNAL: As for Fokker 100 except:

Length overall	30.91 m (101 ft 4 1/4 in)
Fuselage: Length	27.88 m (91 ft 5 1/2 in)
Wheelbase	11.54 m (37 ft 10 1/2 in)
Passenger door (fwd, port): Height	1.91 m (6 ft 3 1/4 in)
Width	0.86 m (2 ft 9 1/4 in)
Cargo compartment door (fwd): Height	1.43 m (4 ft 8 1/4 in)
Width	1.44 m (4 ft 8 3/4 in)
Cargo compartment door (aft): Height	1.22 m (4 ft 0 in)
Width	0.97 m (3 ft 2 1/4 in)

DIMENSIONS, INTERNAL:

Cabin, excl flight deck: Length	16.57 m (54 ft 4 1/4 in)
Max length of seating area	13.31 m (43 ft 8 in)
Max width	3.10 m (10 ft 2 in)
Max height	2.01 m (6 ft 7 in)
Max width at floor	2.89 m (9 ft 5 1/2 in)
Max floor area	45.1 m² (485 sq ft)
Max volume	84.0 m³ (2,967 cu ft)
Overhead stowage bins (total)	3.8 m³ (133 cu ft)
Additional baggage space	5.0 m³ (178 cu ft)
Fwd cargo hold	8.2 m³ (288 cu ft)
Aft cargo hold	4.6 m³ (163 cu ft)

AREAS: As for Fokker 100

WEIGHTS AND LOADINGS (A: standard weights and fuel capacity, B: intermediate gross weight and optional fuel capacity, C: high gross weight and optional fuel capacity, D: highest gross weight and optional fuel capacity):

Typical operating weight empty	22,784 kg (50,230 lb)
Max payload (weight-limited): A	9,190 kg (20,260 lb)
B	9,870 kg (21,760 lb)
C, D	10,780 kg (23,766 lb)
Max ramp weight: A	36,965 kg (81,500 lb)
B	38,325 kg (84,500 lb)
C	40,140 kg (88,500 lb)
D	41,957 kg (92,500 lb)
Max T-O weight: A	36,740 kg (81,000 lb)
B	38,100 kg (84,000 lb)
C	39,915 kg (88,000 lb)
D	41,730 kg (92,000 lb)
Max landing weight: A (normal)	34,020 kg (75,000 lb)
A (optional), B (normal)	35,830 kg (79,000 lb)
B (optional), C	36,740 kg (81,000 lb)
Max zero-fuel weight: A	31,975 kg (71,500 lb)
B	32,655 kg (72,000 lb)
C	33,365 kg (74,000 lb)

Max wing loading: A 392.9 kg/m² (80.48 lb/sq ft)
B 407.5 kg/m² (83.47 lb/sq ft)
C 426.9 kg/m² (87.44 lb/sq ft)
D 446.3 kg/m² (91.41 lb/sq ft)
Max power loading: A 298 kg/kN (2.92 lb/lb st)
B 309 kg/kN (3.03 lb/lb st)
C 324 kg/kN (3.18 lb/lb st)
D 339 kg/kN (3.32 lb/lb st)

PERFORMANCE (A, B, C, D as in Weights and Loadings):

Max operating Mach No. 0.77
Max operating speed at 7,770 m (25,500 ft), ISA: A, B, C 462 kt (856 km/h; 532 mph)

Approach speed at max landing weight:
A 119 kt (220 km/h; 137 mph)
B 122 kt (226 km/h; 140 mph)
C 123 kt (228 km/h; 141 mph)

Service ceiling 10,670 m (35,000 ft)

T-O field length at S/L, ISA, at max landing weight:
A 1,305 m (4,285 ft)
B 1,395 m (4,580 ft)
C 1,550 m (5,085 ft)
D 1,665 m (5,465 ft)

Landing field length at S/L, ISA, at max landing weight:
A 1,215 m (3,990 ft)
B 1,255 m (4,120 ft)
C 1,274 m (4,180 ft)

Range with 79 passengers and baggage:
A 1,070 n miles (1,981 km; 1,231 miles)
B 1,415 n miles (2,620 km; 1,628 miles)
C 1,855 n miles (3,435 km; 2,134 miles)
D 2,015 n miles (3,731 km; 2,318 miles)

OPERATIONAL NOISE LEVELS: Comply with FAR Pt 36 Stage 3, ICAO Annex 16 Chapter 3. (A, B, C, D as in Weights and Loadings):

T-O (flyover, actual): A 76.8 EPNdB
B 77.7 EPNdB
C 78.8 EPNdB
D 80.1 EPNdB

T-O (flyover, margin): A -12.2 EPNdB
B -11.3 EPNdB
C -10.2 EPNdB
D -8.9 EPNdB

T-O (sideline, actual): A 89.9 EPNdB
B 89.8 EPNdB
C 89.6 EPNdB
D 89.5 EPNdB

T-O (sideline, margin): A -4.3 EPNdB
B -4.5 EPNdB
C -4.9 EPNdB
D -5.2 EPNdB

Approach, actual: A 87.7 EPNdB
B 88.1 EPNdB
C 88.3 EPNdB
D 88.3 EPNdB

Approach, margin: A -9.9 EPNdB
B -10.0 EPNdB
C -10.1 EPNdB
D -10.3 EPNdB

UPDATED

FOKKER (6)



Rear aspect of Saab 340 AEW&C showing ventral strakes, APU exhaust and multiplicity of vortex generators (Paul Jackson) 1995

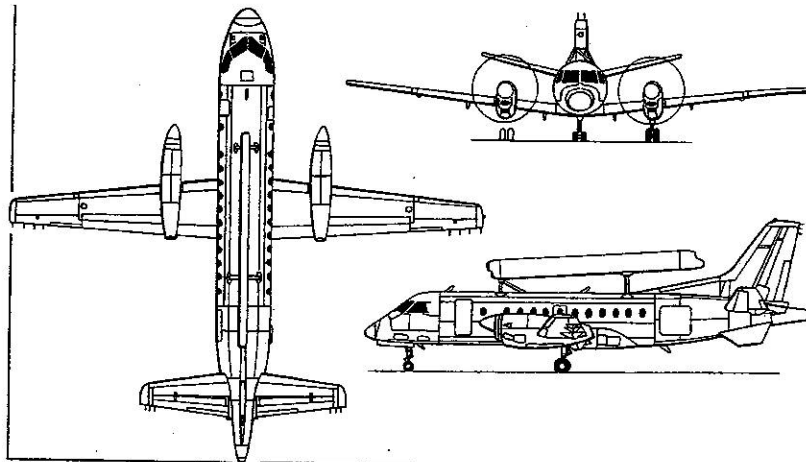
Service ceiling: standard	7,620 m (25,000 ft)
optional	9,450 m (31,000 ft)
Service ceiling: OEI (1.1% net gradient at 95% MTOW):	
normal span	3,790 m (12,440 ft)
extended span	3,975 m (13,040 ft)
T-O to 11 m (35 ft) at S/L:	
JAR: normal span	1,287 m (4,225 ft)
extended span	1,129 m (3,705 ft)
FAR: normal span	1,318 m (4,325 ft)
extended span	1,129 m (3,705 ft)
T-O to 11 m (35 ft) at 1,525 m (5,000 ft):	
JAR: normal span	1,625 m (5,335 ft)
extended span	1,396 m (4,580 ft)
FAR: normal span	1,674 m (5,495 ft)
extended span	1,396 m (4,580 ft)
Landing from 15 m (50 ft) at MLW at S/L:	
JAR: normal span	1,033 m (3,390 ft)
extended span	993 m (3,260 ft)
FAR: normal span	1,066 m (3,500 ft)
extended span	993 m (3,260 ft)
Landing from 15 m (50 ft) at MLW at 1,525 m (5,000 ft):	
JAR: normal span	1,165 m (3,805 ft)
extended span	1,115 m (3,660 ft)
FAR: normal span	1,200 m (3,930 ft)
extended span	1,115 m (3,660 ft)
Runway ACN: flexible pavement	7
rigid pavement	8
Range with 35 passengers using JAR POS 1 flight profile:	
with high-speed technique	745 n miles (1,379 km; 857 miles)
with long-range technique	910 n miles (1,685 km; 1,047 miles)
OPERATIONAL NOISE LEVELS (FAR Pt 36, Appendix C):	
T-O	78.5 EPNdB
Sideline	85.9 EPNdB
Approach	91.6 EPNdB

UPDATED

SAAB 2000

TYPE: Twin-turboprop regional transport.

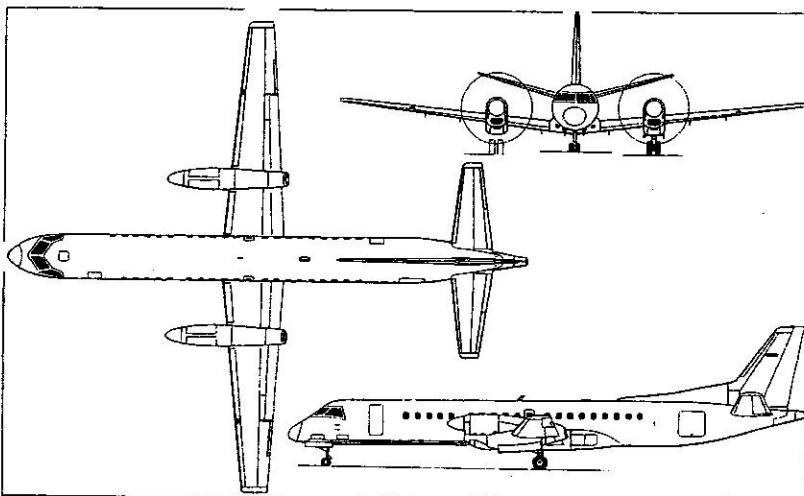
PROGRAMME: Definition started autumn 1988; launched 15 December 1988 with Crossair commitment for 25 firm and 25 on option; formal go-ahead May 1989; Allison GMA (now AE) 2100 selected as power plant July 1989; first metal cut February 1990; major subcontractor items delivered 1991 by Westland (rear fuselage, March), Valmet (tail unit, July), CASA (wing, August) and Allison (engines, August); first aircraft (SE-001) rolled out 14 December 1991 and made first flight 26 March 1992. Three aircraft in certification programme, of which c/n 002 made first flight 3 July 1992, followed by 003 on 28 August; 003



Saab 340 AEW&C/S 100B surveillance aircraft (Jane's/James Goulding) 1995



Saab 2000 cabin 1997



Saab 2000 short/medium-range 50/58-passenger regional transport (Jane's/Dennis Punnett) 1993

first to production standard; static and fatigue test airframes also completed; first flight of production aircraft (SE-004) 17 March 1993; engine certificated 23 April 1993; Saab 2000 certification, initially to JAR 25 (Amendment 13) and FAR Pt 25 (Amendment 70), received on 31 March and 29 April 1994 respectively; will be extended later to include Cat. IIIa operation as an option. Deliveries began with 006 (HB-JZC) to Crossair on 30 August 1994; service entry September 1994. Total of 33 delivered by 1 September 1996, at which time the fleet had accumulated 74,000 flight hours and carried almost two million revenue passengers.

CURRENT VERSIONS: Saab 2000: Regional transport; as described.

Saab 2000 AEW&C: Projected airborne early warning and control variant employing spine-mounted Erieye radar, described in the Saab 340 entry. Wind tunnel model tests begun mid-1996.

COSTS: Swedish government lent Saab between \$163 million and \$187 million (1989) for development between 1989 and 1994, to be repaid from sales from 31st aircraft until 2009. Finnish Flygplansfabriken investing \$8.4 million (1989) and ADCO \$5.3 million (1989) in Valmet tail unit subcontract; total Valmet (now Finavitec) agreement

132 Dog link
133 Port inboard fuel tank bay
134 Wing panel bonded stringer construction, half-

112 Elevator spring tab
113 Trim tab
114 Port elevator construction

89 Air ducting and passenger service units
90 Galley unit
91 Rear lobby with service/

70 Leading-edge de-icing boot
71 Starboard navigation light
72 Stroke light

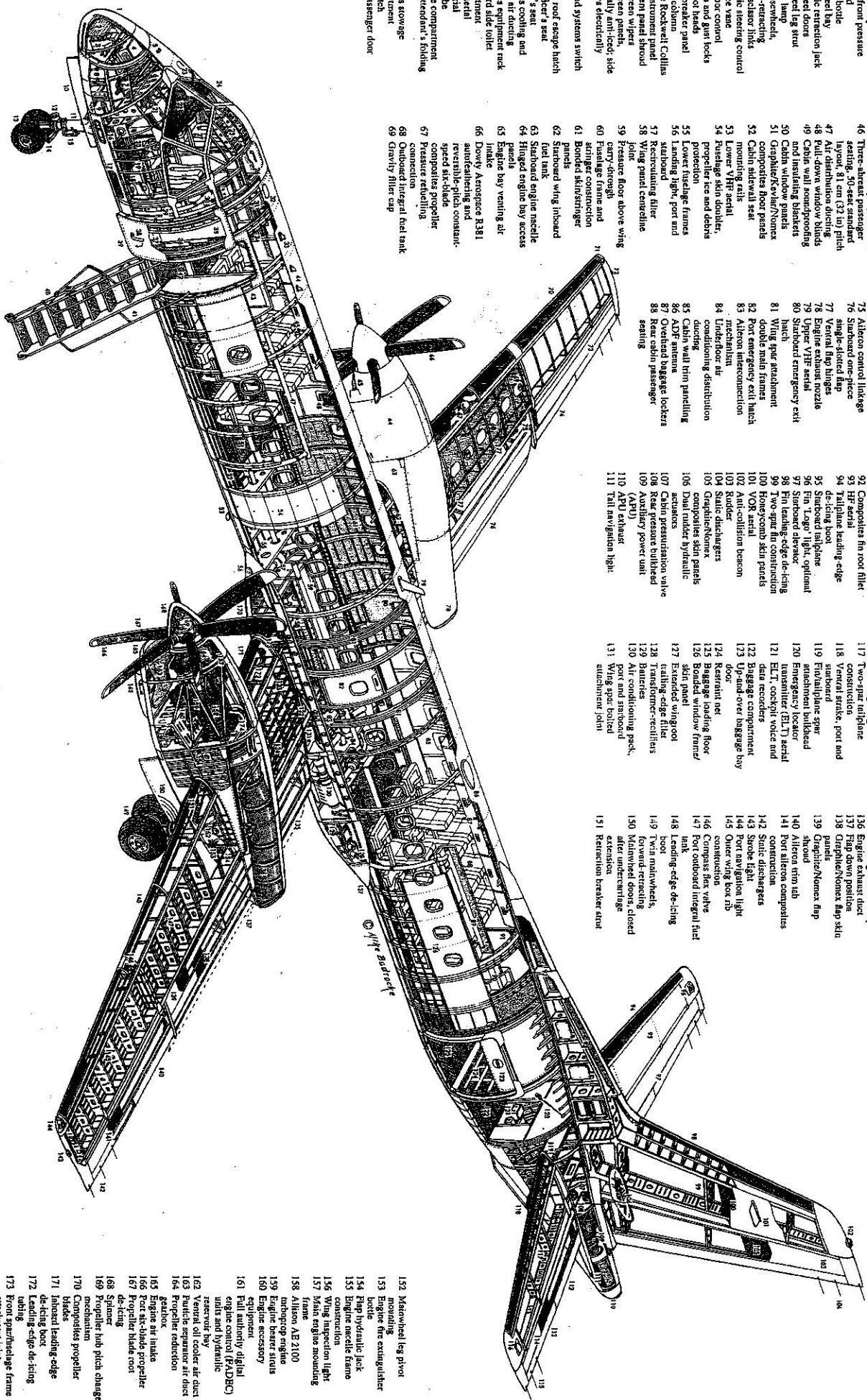
40 Aft fuselage
41 Folding handrail
42 Entry lobby
43 Aft fuselage structure

Saab 2000, outtake drawing key

1 Radome
2 Weather radar scanner
3 Scanner mounting and

SAAB 2000 (1)

b 2000, cutaway drawing key



- done
- after radar scanner
- mer mounting and
- cking mechanism
- der transceiver
- temperature probe
- ping front pressure
- bleaded
- lyten bottle
- ventated by
- drilled down jack
- switched down
- weakened for strut
- xying lamp
- in overboard
- revent-retracting
- equre actuator links
- drumic steering control
- silence vase
- afternoon control
- hinges and gear locks
- nal pilot heads
- reult breaker panel
- metrol column
- 4-tube Rockwell Collins
- 515 instrument panel
- instrument panel shroud
- indereen wipers
- indereen panels
- centrically anti-iced; side
- indove electrically
- aced
- rethead systems switch
- achip roof escape hatch
- at officer's seat
- ynah's seat
- whiche cooling and
- whiche air ducting
- whiche equipment rack
- embowed side toilet
- unimportant
- 2AS aerial
- PS aerial
- audible
- verage compartment
- abin attendant's folding
- insistent storage
- oor lunch
- lin passenger door
- 40 Afterside
- 41 Folding handrail
- 42 Entry lobby
- 43 Hand baggage storage
- 44 ATC 1 and 2 seats
- 45 Overhead baggage lockers
- 46 Three-abreast passenger
- 47 Seating, 31-seat standard
- 48 Pull-down window blind
- 49 Cable wall nonimpeding
- 50 Graphite/evlar/Nomex
- 51 Cabin window panels
- 52 Composite floor panels
- 53 Cabin sidewall seat
- 54 Lower VHF aerial
- 55 Fuselage skin doubler,
- 56 Propeller ice and debris
- 57 Recirculating filter
- 58 Wing panel centrifuge
- 59 Pressure floor above wing
- 60 Fuelage frame and
- 61 Engine inspection
- 62 Fuelage skin doubler
- 63 Starboard wing inboard
- 64 Starboard engine nacelle
- 65 Hinged engine bay access
- 66 Dowlly Aerospace R381
- 67 Autostalling and
- 68 Restorable pitch constant-
- 69 speed six-blade
- 70 composites propeller
- 71 Pressure refueling
- 72 connection
- 73 Outboard integral fuel tank
- 74 Gravity filter cap
- 70 Leading-edge de-icing
- 71 Starboard navigation light
- 72 Starboard light
- 73 Starboard strobe
- 74 Afterson ab
- 75 Afterson control linkage
- 76 Starboard one-piece
- 77 Wing root flap
- 78 Engine exhaust nozzle
- 79 Upper VHF aerial
- 80 Starboard emergency exit
- 81 Wing apex attachment
- 82 Double main frames
- 83 Port emergency exit hatch
- 84 Afterson interconnection
- 85 Underfloor air
- 86 Static dischargers
- 87 Cabin wall trim panelling
- 88 ADF antenna
- 89 Overhead baggage lockers
- 88 Rear cabin passenger
- 89 Air ducting and passenger
- 90 service units
- 91 Rear lobby with service/
- 92 emergency door and
- 93 attachable seat
- 92 Composites fin root fillet
- 93 37° aera
- 94 Airplane leading-edge
- 95 Starboard leading-edge
- 96 Starboard flap
- 97 Starboard aileron
- 98 Fin leading-edge de-icing
- 99 Two spar fin construction
- 100 Honeycomb skin panels
- 101 VOR aerial
- 102 Anti-collision beacon
- 103 Radar
- 104 Static dischargers
- 105 Composite skin panels
- 106 Dual under hydraulic
- 107 Cabin pressurization valve
- 108 Raw pressure bulkhead
- 109 Auxiliary power unit
- 110 (APU)
- 111 Tail exhaust
- 112 Tail navigation light
- 112 Elevator spring job
- 113 Trim tab
- 114 Port elevator composites
- 115 Static dischargers
- 116 Port "Logo" light
- 117 Two-spar tailplane
- 118 Vertical strake: port and
- 119 Starboard strake: port and
- 120 Starboard spar
- 121 Emergency locator
- 122 ELT aerial
- 121 ELT cockpit voice and
- 122 data recorder
- 123 Baggage compartment
- 123 Up-and-over baggage bay
- 124 door
- 124 Restraint net
- 125 Baggage loading floor
- 126 Banded window frame/
- 127 skin panel
- 127 Extended wingroot
- 128 trailing-edge fillet
- 128 Transformer-rectifiers
- 129 Batteries
- 130 Air conditioning pack,
- 131 port and starboard
- 131 Wing spar: joined
- 131 Wing spar: bolted
- 131 attachment joint
- 132 Drag link
- 133 Port inboard fuel tank bay
- 134 Wing panel bonded
- 134 stringer construction, half-
- 135 Port single-slotted flap
- 136 Engine exhaust duct
- 137 Flap down position
- 138 Graphite/Nomex flap skin
- 139 Graphite/Nomex flap
- 140 Afterson trim up
- 141 Port aileron composites
- 142 ELT, cockpit voice and
- 143 data recorder
- 143 Static dischargers
- 144 Port navigation light
- 145 Starboard light
- 144 Port wing box rib
- 146 Composite
- 147 Port outboard integral fuel
- 148 tank
- 148 Leading-edge de-icing
- 149 Twin mainwheels,
- 149 forward-retracting
- 150 Mainwheel doors, closed
- 150 after undercarriage
- 151 Retraction breaker strut
- 151 extension
- 152 Mainwheel leg pivot
- 153 mounting
- 153 Engine fire extinguisher
- 154 bottle
- 154 Flap hydraulic jack
- 155 Engine nacelle frame
- 156 Yaw damper
- 157 Warning inspection light
- 157 Main engine mounting
- 158 frame
- 158 Afterson AE 2100
- 159 turbo-prop engine
- 159 Engine bearing struts
- 160 Engine accessory
- 160 equipment
- 161 Full authority digital
- 161 engine control (FADEC)
- 162 reserve bay
- 162 Ventral oil cooler air duct
- 163 Particle separator air duct
- 164 Propeller reduction
- 165 gearbox
- 165 Engine air intake
- 166 Ventral oil cooler air duct
- 167 Fuelage blade root
- 168 de-icing
- 168 Spinner
- 169 Propeller hub pitch change
- 170 Composites
- 170 Composites
- 171 Inboard leading-edge
- 171 de-icing box
- 172 Leading-edge de-icing
- 173 tubing
- 173 Front spar/fuselage frame
- 174 attachment joint
- 174 Engine rear mounting
- 174 frame



One of three Saab 2000s ordered by Regional Airlines of France

1996

valued at \$69.8 million (1989); Westland rear fuselage production contract worth £40 million (1990).

CUSTOMERS: Firm orders for 48 by September 1996 comprised Air Marshall Islands (two), Crossair (25), Regional Airlines (six), Skyways (two), SAS (four), Deutsche BA (five), General Motors World Travel Service (three, in corporate shuttle configuration) and one unannounced. Options at same date totalled 85 comprising Air Marshall Islands (two), AMR Eagle (50), Calm Air (two), Crossair (20), Deutsche BA (five), Kendell Airlines (two), SAS (two) and Skyways (two). Second recipient following Crossair was Deutsche BA on 17 March 1995 (013/D-ADSA). First corporate delivery to General Motors on 30 October 1995 (020/N5123L). First for SAS delivered 24 January 1997 and entered service on 3 February. Total 40 (excluding three prototypes) delivered by 1 February 1997, including 11 in 1996; orders in 1996 totalled seven (six net); backlog at 1 January 1997 was 11. Further two ordered February 1997 for Japan Civil Aviation Bureau's flight-checking fleet.

DESIGN FEATURES: Combines jet speeds with turboprop economy, achieving 370 kt (685 km/h; 426 mph) cruising speed, climb to 6,100 m (20,000 ft) in 10 minutes and cruising altitudes between 5,485 m and 9,450 m (18,000 and 31,000 ft). CAD/CAM designed throughout; same fuselage cross-section as 340B, but longer; same wing section, but span stretched 15 per cent to give 33 per cent more area; engines farther outboard for noise reduction.

FLYING CONTROLS: Rod and cable control linkages for ailerons, with electrically actuated trim tab in each aileron. Powered elevator and rudder control systems. Dual fail-passive hydraulic activation with electric signalling. Hydraulically operated single-slotted flaps with offset hinges.

STRUCTURE: Wing and fuselage primary structures of metal/metal bonded aluminium alloy, as in Saab 340B, with honeycomb sandwich fin, tailplane and doors; two-spar wings, fin and tailplane; composites for ailerons (CFRP/Nomex), flaps (CFRP skins), wing/body fairings (Kevlar/Nomex), nosecone (GFRP/Nomex), rudder and elevators (CFRP leading-edges and CFRP skins), dorsal fin, propeller blades, and cabin floor (carbonfibre sandwich); superplastic formed/diffusion bonded titanium nacelle firefloors.

Major subcontractors are CASA (wing, including design, stressing and testing), Westland Engineering (rear fuselage and, with Hispano-Suiza, engine cowlings), Finavitec (fin, rudder, tailplane and elevators) and Fischer Advanced Composites (dorsal fin).

LANDING GEAR: AP Precision Hydraulics retractable tricycle type, with twin wheels and oleo-pneumatic shock absorbers on each unit; all units retract forward. ABS wheels and carbon brakes; Goodyear tyres; Hydro Aire anti-skid system; Ozone Inc nosewheel steering. Minimum ground turning radius 12.96 m (42 ft 6¼ in).

POWER PLANT: Two Allison AE 2100A turboprops, each flat rated at 3,096 kW (4,152 shp) with APR (S/L, ISA, at 1,100 rpm); Lucas Aerospace full dual-channel FADEC (single-lever control of engines and propellers). Dowty Aerospace R381 slow-turning, constant-speed propellers with six swept blades, full autofeathering and reverse pitch; propellers 950 rpm in cruise; blades of both propellers held in phase at all times. Fuel in two integral tanks in each outer wing, total usable capacity 5,300 litres (1,400 US gallons; 1,165 Imp gallons). Single pressure refuelling point in starboard outer wing panel; overwing gravity refuelling point in each wing.

ACCOMMODATION: Flight crew of three or four, including cabin attendant(s). Standard AIM Aviation (UK) cabin has

50 seats three-abreast at 81 cm (32 in) pitch with single aisle, but cabin length can be extended for additional galley and wardrobe space by moving rear bulkhead aft into baggage space, permitting seating to be increased to 58 at 76 cm (30 in) pitch. Main baggage compartment aft of passenger cabin, with door on port side; provision for additional, smaller baggage area at front of cabin on starboard side. Passenger airstair door at front on port side; service/emergency door at rear on starboard side; overwing Type III emergency exit each side. Entire accommodation pressurised and air conditioned. Ultra Electronics active noise control (ANC) system standard, employing 72 microphones and 36 loudspeakers in cabin interior which continually monitor noise levels and, via a microprocessor electronic systems controller, generate an anti-phase sound field to lower cabin noise level.

bleed air; maximum pressure differential 0.48 bar (7.0 lb/sq in). Hydraulic system, with Abex pumps, for landing gear, flap, elevator and rudder actuation. BFGoodrich pneumatic boot de-icing system for wing/fin/tailplane leading-edges; engine intakes anti-iced by engine bleed air. Electrical system has two 45 kVA variable frequency engine-driven generators for three-phase 115/200 V AC power and four 28 V DC batteries. Electric de-icing of propeller blades; Swedlow electrically heated windscreen panels. Sundstrand APU for engine starting and ECS. Scott oxygen system. Pacific Scientific fire detection and Kidde-Graviner fire extinguishing systems.

AVIONICS: Comms: Com/nav/pulse package and radio tuning units standard.

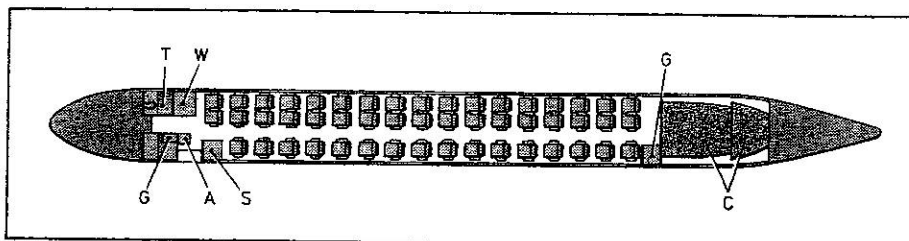
Radar: Collins WXR-840 solid-state weather radar standard; turbulence detecting weather radar optional.

Flight: AHRS and digital air data system standard; flight management system and IRS optional.

Instrumentation: Collins Pro Line 4 package with six CRT displays, integrated avionics processing system (IAPS) and EICAS standard; TCAS optional.

DIMENSIONS, EXTERNAL:

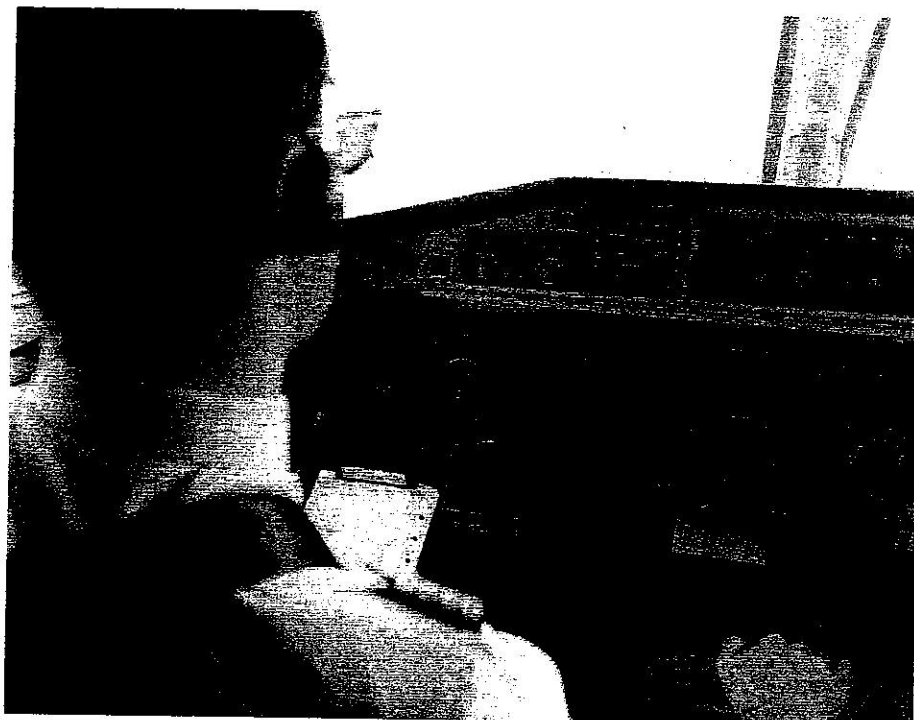
Wing span	24.76 m (81 ft 2¼ in)
Wing aspect ratio	11.0
Length overall	27.28 m (89 ft 6 in)
Fuselage: Max diameter	2.31 m (7 ft 7 in)
Height overall	7.73 m (25 ft 4 in)
Tailplane span	10.36 m (34 ft 0 in)
Wheel track	8.23 m (27 ft 0 in)
Wheelbase	11.22 m (36 ft 9¼ in)
Propeller diameter	3.81 m (12 ft 6 in)
Propeller ground clearance	0.46 m (1 ft 6 in)
Passenger door: Height	1.60 m (5 ft 3 in)
Width	0.69 m (2 ft 3 in)
Height to sill	1.81 m (5 ft 11¼ in)
Baggage door (rear, port):	
Height	1.30 m (4 ft 3 in)
Width	1.35 m (4 ft 5 in)
Height to sill	1.85 m (6 ft 0¼ in)
Service/emergency door (rear, stbd):	
Height	1.22 m (4 ft 0 in)
Width	0.61 m (2 ft 0 in)
Emergency exits (overwing, each):	
Height	0.91 m (3 ft 0 in)
Width	0.51 m (1 ft 8 in)



Saab 2000 standard 50-passenger layout. (Jane's/Mike Keep)

A: attendant's seat, C: baggage/cargo, G: galley, S: stowage, T: toilet, W: wardrobe

1996



Flight deck of the Saab 2000, showing the captain's position

1997

SAAB2000 (3)

DIMENSIONS, INTERNAL:

Cabin, excl flight deck, toilet and galley:

Length	16.70 m (54 ft 9 1/2 in)
Max width	2.16 m (7 ft 1 in)
Width at floor	1.70 m (5 ft 7 in)
Max height	1.83 m (6 ft 0 in)
Volume	52.7 m ³ (1,860 cu ft)
Baggage/cargo compartment:	
Volume	10.2 m ³ (360 cu ft)

AREAS:

Wings, gross	55.74 m ² (600.0 sq ft)
Vertical tail surfaces (total)	13.01 m ² (140.04 sq ft)
Horizontal tail surfaces (total)	18.35 m ² (197.52 sq ft)

WEIGHTS AND LOADINGS:

Operating weight empty	13,800 kg (30,423 lb)
Max payload (weight limited)	5,900 kg (13,007 lb)
Max fuel load	4,250 kg (9,369 lb)
Max ramp weight	23,000 kg (50,706 lb)
Max T-O weight	22,800 kg (50,265 lb)
Max landing weight	22,000 kg (48,501 lb)
Max zero-fuel weight	19,700 kg (43,431 lb)
Max wing loading	409.0 kg/m ² (83.78 lb/sq ft)
Max power loading, with APR	3.68 kg/kW (6.05 lb/shp)

PERFORMANCE (at max T-O weight, ISA, except where indicated; MLW: max landing weight):

Max operating speed (VMO):	below 3,050 m (10,000 ft)
	250 kt (463 km/h; 288 mph) IAS
	above 3,050 m (10,000 ft)
	270 kt (500 km/h; 311 mph) IAS

Max operating Mach No. (Mmo)	0.62
------------------------------	------

Max cruising speed:	at 7,620 m (25,000 ft)	368 kt (682 km/h; 423 mph)
	at 9,450 m (31,000 ft)	354 kt (656 km/h; 407 mph)
Long-range cruising speed at 9,450 m (31,000 ft)		321 kt (594 km/h; 369 mph)

Stalling speed:		
flaps up	122 kt (226 km/h; 141 mph)	
take-off flap	111 kt (206 km/h; 128 mph)	
approach flap (MLW)	105 kt (195 km/h; 121 mph)	
landing flap (MLW)	98 kt (182 km/h; 113 mph)	
Max rate of climb at S/L	685 m (2,250 ft)/min	
Rate of climb at S/L, OEI	208 m (685 ft)/min	
Time to 6,100 m (20,000 ft)	10 min	
Service ceiling	9,450 m (31,000 ft)	

Service ceiling, OEI, at 95% of MTOW:

ISA	5,890 m (19,320 ft)
ISA + 10°C	5,060 m (16,600 ft)
T-O to 11 m (35 ft): at S/L	1,291 m (4,235 ft)
at 1,525 m (5,000 ft)	1,636 m (5,365 ft)

Landing from 15 m (50 ft) at MLW:

at S/L: JAR	1,243 m (4,080 ft)
FAR	1,278 m (4,195 ft)
at 1,525 m (5,000 ft): JAR	1,408 m (4,620 ft)
FAR	1,447 m (4,750 ft)

Runway ACN: flexible pavement

13

rigid pavement

15

Range with 50 passengers using JAR OPS 1 flight profile:

with high-speed technique	1,180 n miles (2,185 km; 1,358 miles)
with long-range technique	1,549 n miles (2,868 km; 1,782 miles)

OPERATIONAL NOISE LEVELS (estimated):

T-O	89.0 EPNdB
Sideline	94.0 EPNdB
Approach	98.0 EPNdB

UPDATED

SWITZERLAND

FFA

FFA FLUGZEUGWERKE ALTENRHEIN AG

CH-9423 Altenrhein

Tel: 41 (71) 858 5111

Fax: 41 (71) 5330

Telex: 881569 FFA CH

PRESIDENT: Charles Brünemann

CHIEF ENGINEER: U. Eigenmann

Originated as Swiss branch of German Dornier company, becoming all Swiss in 1948; acquired by Justus Dornier group in Zurich January 1987, taking present name 1 June 1987. Privately owned since 1991. Activities include producing spares for Swiss-built Northrop F-5E/F and parts for F/A-18, overhaul and maintenance for general aviation, and subcontract work for various foreign aircraft manufacturers. Current workforce (1997) about 90.

UPDATED

FFA AS 202 BRAVO

TYPE: Two/three-seat trainer and sporting aircraft.

PROGRAMME: Originally a joint venture with SIAI-Marchetti of Italy, then became independent Swiss programme; first flight by AS 202/15 Swiss prototype (HB-HEA) 7 March 1969; 34 of this version built (see 1981-82 *Jane's*), plus one prototype AS 202/26A (1985-86 edition); AS 202/18A (1991-92 *Jane's*) made first flight (HB-HEY) 22 August 1974, certificated by Swiss 12 December 1975, UK CAA on 10 December 1987 and FAA on 17 December 1976.

CURRENT VERSIONS: AS 202/26A1: Designed for higher performance, especially in hot/high locations. Prototype made first flight 1978 but not put into production then; certification work currently suspended to concentrate on 32TP (which see). Powered by 194 kW (260 hp) Textron Lycoming AEIO-540-D4B5 flat-six engine with two-blade constant-speed metal propeller (three-blade expected for final version); 24 V electrical system, as in 18A3; air conditioning optional. See 1995-96 *Jane's* for further details.

AS 202/32TP: Turboprop version; described separately.

UPDATED

FFA AS 202/32TP TURBINE BRAVO

TYPE: Two/three-seat trainer, glider tug and sporting aircraft.

PROGRAMME: Introduced 1992 (prototype HB-HFJ, first flight 20 July); initial certification in Utility category, permitting use in glider towing role. Swiss restricted type certificate awarded in December 1995.

CUSTOMERS: One delivered 1993 to Alpine Segelflugschule at Schänis, Switzerland.

DESIGN FEATURES: Rapid T-O and climb to release point; dive brakes permit rapid descent after glider release; slow propeller rpm and quiet engine allow acceptance in heavily populated and other sensitive areas.

Typical low-wing, fixed-gear lightplane configuration; angular flying surfaces; sweptback vertical tail. Wing section NACA 63,618 (modified) at centreline, 63,415 at tip; thickness/chord ratio 17.63 per cent at root, 15 per cent at tip; dihedral 5° 43' from roots; incidence 3°; quarter-chord sweepback 0° 40'.

FLYING CONTROLS: Mechanical; single-slotted ailerons and mass balanced rudder; ground adjustable tab on each aileron, electrically actuated trim tab in starboard elevator. Single-slotted flaps; fixed incidence tailplane.

STRUCTURE: All-aluminium fail-safe except for glass fibre fairings and engine cowlings; single-spar wings and tail with riveted honeycomb laminate skins.

LANDING GEAR: Non-retractable tricycle type, with steerable nosewheel. Rubber cushioned FFA shock-absorber struts. Mainwheel tyres size 6.00-6; nosewheel tyre size 5.00-5. Tyre pressure (all units) 2.41 bars (35 lb/sq in). Independent hydraulically operated disc brake on each mainwheel.

POWER PLANT: One 313 kW (420 shp) Allison 250-B17D turboprop, maximum continuous rating 275 kW (369 shp) at 2,030 rpm, driving a Hartzell HC-B3TF-7A/10173N-19R three-blade constant-speed propeller. Two wing leading-edge rubber fuel tanks with combined capacity of 170 litres (44.9 US gallons; 37.4 Imp gallons), plus two wingtip tanks with combined capacity of 114 litres (30.1 US gallons; 25.1 Imp gallons), giving total capacity of 284 litres (75 US gallons; 62.5 Imp gallons). Overwing refuelling point each side, plus point in each wingtip tank.

ACCOMMODATION: Seats for two persons side by side in Aerobatic version, under rearward-sliding jettisonable transparent canopy. Space at rear for third seat or 100 kg (220 lb) of baggage. Dual controls, cabin ventilation and heating standard.

SYSTEMS: Hydraulic system for brake actuation. One 12 V 60A engine-driven alternator and one 25 Ah battery provide electrical power for engine starting, lighting instruments, communications and navigation installations; 28 V electrical system optional.

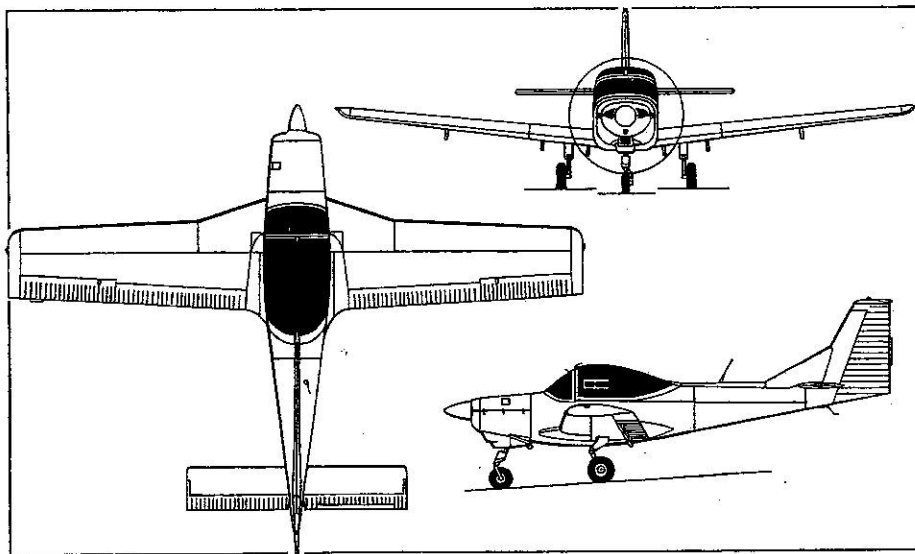
AVIONICS: To customer's requirements. Provision for VHF radio, VOR, ADF, Nav-O-Matic 200A autopilot, blind-flying instrumentation or other special equipment.

EQUIPMENT: Clutch and release mechanism for glider towing optional.

DIMENSIONS, EXTERNAL:

Wing span	9.95 m (32 ft 7 3/4 in)
Wing aspect ratio	7.0
Length overall	7.78 m (25 ft 6 1/4 in)
Height overall	2.81 m (9 ft 2 3/4 in)
Tailplane span	3.67 m (12 ft 0 1/2 in)
Wheel track	2.25 m (7 ft 4 1/2 in)
Wheelbase	1.87 m (6 ft 1 1/4 in)

SAAB2000 (4)

AS 202/32TP Turbine Bravo, developed from the piston-engined 18A4 (*Jane's/Mike Keep*)

1994

