

Royal Board of Civil Aviation
Stockholm 12, Sweden

Lui 2120/2:9

AIRCRAFT SPECIFICATION.

An aircraft of the type specified below and conforming with approved data on file with the Royal Swedish Board of Civil Aviation will upon application receive an airworthiness certificate, when in the opinion of the Inspector General the aircraft is in an airworthy condition.

The type of aircraft complying with the terms of this specification has been designed according to the airworthiness requirements for the utility category airplanes in the USA Civil Aeronautics Board's Civil Air Regulations 03, effective November 13, 1945.

Aircraft Model	Saab-91A, Safir.
Manufacturer	Svenska Aeroplan AB, Linköping, Sweden.
General	Three-seat enclosed cabin, single engine monoplane, Tricycle retractable undercarriage. Low single-spar cantilever wing. Stressed-skin Alclad sheet covering except for fabric covered wing trailing edge and movable control surfaces. Tailplane of monoplane type. All metal split flaps. Dual controls of conventional type.
Dimensions	Span 10,6 m (34 ft 9 in.). Length 7,8 m (25 ft 7 in.). Height 2,2 m (7 ft 3 in.). Wing area 13,6 m ² (146 sq.ft.).
Engine	De Havilland Gipsy Major I or Gipsy Major 10 MK. 1 and 10 MK. 2.
Fuel	Gipsy Major I: 73 minimum octane. Gipsy Major 10 MK.1: 80 minimum octane, maximum lead content: 4,0 cc. TEL per Imp. gallon. Gipsy Major 10 MK.2: 80 minimum octane, maximum lead content: 5,5 cc. TEL per Imp. gallon.
Engine limits	Gipsy Major I: maximum except take-off, sea level 2100 rpm (120 hp). take-off: 2350 rpm. Gipsy Major 10 MK.1 and MK.2: See operating limitations in the engine manufacturer's maintenance manual, approved by the British Air Registration Board, for each particular variant of Gipsy Major Series 10 engines.
Propeller limits	Maximum permissible diameter 1980 mm.
Airspeed limits	Glide or dive 350 km/h (215 mph) IAS. Flaps extended 180 km/h (100 mph) IAS.

C.G. range	For normal operations: (-448 mm) (6 % MAC) to (-129 mm) (29.4 % MAC) For acrobatic manoeuvres: (-448 mm) (6 % MAC) to (-202 mm) (24.5 % MAC) Note: Values in mm shown in parentheses represent horizontal arms to the datum, minus (-) is ahead of the datum. Retraction of the landing gear does not to any appreciable amount affect the location of the C.G. of the aeroplane.
Datum	Fuselage station no. 2670 (centre of bolt in main spar fitting, lower side of wing).
MAC	1365 mm (L.E. of MAC at -530 mm).
Leveling means	Points for leveling are the upper side of the wing at the wing spar at the root of the wing, left and right side. The fuselage rail shall be horizontal.
Max. weight	1075 kg (2370 lbs) for normal operations 935 kg (2060 lbs) for limited acrobatic manoeuvres (See Note 2).
Empty weight	Approx. 590 kg (1300 lbs) and higher according to equipment (See Note 4).
No. of seats	3 (two at -225 mm and one at +830 mm).
Fuel capacity	135 lit. (30 Imp. gals) (+512 mm) (See Note 1).
Oil capacity	9 lit. (2.1 Imp. gals) (-1509 mm).
Baggage compartment	(+655 mm).
Control surface movements	Elevator 25° up 20° down Rudder 25° left 25° right Aileron 26° up 17° down

Equipment.

Propellers.

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| 1. KFF no. Pl 4004 or KFF no. Pl 4007 M
(Pl 4007 M is modified to Pl 4004 data) | 10,7 kg (23.5 lbs) (-2450 mm) |
| 2. KFF no. Pl 7002 | 10,7 kg (23.5 lbs) (-2450 mm) |
| 3. De Havilland Variable pitch 2/M/1
Eligible only when item 103 is installed. | 29,7 kg (66.0 lbs) (-2510 mm) |

Engines.

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| 101. Engine Gipsy Major I, weight without propeller, hub, starter and generator | ca 134 kg (295 lbs) (-1910 mm) |
| 102. Engine Gipsy Major 10 MK. 1, weight without propeller, hub, starter and generator | ca 145 kg (320 lbs) (-1910 mm) |
| 103. Engine Gipsy Major 10 MK. 2, weight without propeller, hub, starter and generator | ca 148 kg (325 lbs) (-1910 mm) |

Landing gear.

- 201.a) Nose wheel installation (6.00x5 tire,
model 527685) Saab no. SA590263 18,7 kg (41.2 lbs) (-1245 mm)
b) Nose ski installation, Saab no. 527064 24,2 kg (53.6 lbs) (-1300 mm)
- 202 Main wheels installation (6.50x6.50 tire, model
527584) Saab no. SA590597 (left) and SA 590598
(right), total weight 35,8 kg (78.9 lbs) (+265 mm)
- Note: The aircraft is used as a skiplane with a ski on the nose landing gear and
wheels on the main landing gear.

Electrical and Radio Equipment.

- 301.a) Starter - Rotax N3EY or Y150B (12 volt) 9,1 kg (20.0 lbs) (-1396 mm)
b) Starter - Rotax C0225 (24 volt) 8,0 kg (17.5 lbs) (-1396 mm)
- 302.a) Generator - Rotax B0105 or B0106 (12 volt) 5,0 kg (11.0 lbs) (-1390 mm)
b) Generator - Rotax B1804 (24 volt) 5,0 kg (11.0 lbs) (-1390 mm)
- 303.a) Battery - Tudor 6CX3 (12 volt) 15,0 kg (33.0 lbs) (-1425 mm)
b) Battery - Rotax J0202 (24 volt) 19,3 kg (42.5 lbs) (+1230 mm)
- 304.a) Radio - Standard AS15A 16,5 kg (36.4 lbs) (+176 mm)
b) Radio and D/F - Lear 16,3 kg (35.9 lbs) (-870 mm)

Interior Equipment.

401. Forward right seat-back (the front right seat
bottom may not be removed) 2,7 kg (6.0 lbs) (+30 mm)
402. Rear seat 4,0 kg (8.7 lbs) (+830 mm)
403. Ambulance stretcher, Saab no. 91.9150 9,3 kg (20.4 lbs) (+300 mm)
404. Fire extinguisher - Essex 3AM 2,4 kg (5.3 lbs) (+200 mm)
405. First Aid Kit - KSAK 0,4 kg (0.9 lbs) (-470 mm)

Note 1. The aircraft is also eligible with larger fuel tanks:

- a) Volume 230 lit. (51 Imp. gals) Saab dwg. 561124 6,8 kg (15.0 lbs) (+512 mm)
b) Volume 175 lit. (38 Imp.gals) Saab dwg. 562716 5,4 kg (12.0 lbs) (+512 mm)

Note 2. Snap and inverted manoeuvres are not allowed (See Note 5).

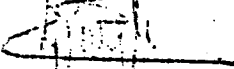
Note 3. Values in mm shown in parentheses represent horizontal arms to the C.G. of the
item measured, minus (-) is ahead and plus (+) is to the rear of the datum.
The affect upon balance of all equipment changes must be computed.

Note 4. Weight and balance report, including list of loading instructions when necessary,
will be submitted for each aircraft with the certificate of airworthiness for
export.

Note 5. The following placards shall be displayed in front and in full view of the pilot:

- a) "Max. weight 1075 kg (2370 lbs). No acrobatic manoeuvres allowed."
"Max. weight 935 kg (206 lbs). Acrobatic manoeuvres allowed, except snap
roll, inverted spin and inverted looping."
b) "Airspeed limits Glide or dive 350 km/h (215 mph).
Flaps extended 180 km/h (110 mph)."
c) Placards showing engine operating limitations in accordance with the engine
manufacturer's maintenance manual.

ROYAL BOARD OF CIVIL AVIATION
Division of Civil Aviation Inspection


E. Ijungh.
(Inspector General a.i.)