SARAS

Features

- Multi-Role light Transport Aircraft with air taxi and services as its primary roles
- Ideal for Executive Transport, light Package Carrier, Remote Sensing, Aerial Search / Survey, Coast Guard, Border Patrol, Air Ambulance, Other Community Services

Status

- Two prototype aircraft have logged 140 hours of flying
- Weight optimized production standard aircraft under manufacture
- Certification expected by mid 2014 under FAR 23
- HAL to be the production partner
- IAF is the launch customer

Main dimensions

Overall length	15.02 m (49 3 ft)
Overall height	5.20 m (17 06 ft)
Wing span	14.70 m (48 2 ft)

Weight

Max take-off weight	7100 kg (15653 lb)
Max fuel weight	1431 kg (3155 lb)
Max pay load	1218 kg (2684 lb)

Power plant

SARAS is powered by two Pratt and Whitney Canada PT6A-67A turbo-prop engines (flat rated at 1200shp) driving 2.65 m diameter 5 bladed constant speed propellers at 1700 rpm in a pusher configuration

Avionics system

SARAS has a state of the art Arinc-429 compatible integrated digital avionics system

Performance (ISA)

Take-off distance	670 m (2200 ft)
Landing distance	900 m (2950 ft)
Max rate of climb	610 m/min (2000 ft/min)
Max range (14 pax)	590 km (45 min reserves)
Max range (8 pax)	1275 km (45 min reserves)
Ferry range	1627 km (45 min reserves)
Max cruise speed	520 km/hr (280 kts)
Endurance	4 hr 45 min

Special features

- Low cabin noise (<80 db)
- Operable from semi - prepared runways
- Operable from hot and high altitude airfields
- Designed to meet FAR-23/25 requirements

CSIR-NAL

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HANSA-3

Features

- All composite aircraft Certified by DGCA under FAR 23 via JAR-VIA
- Suitable for ab-initio flying training, sport and hobby flying
- Provided with a lightning protection scheme
- Suitable for VFR and night flight operations

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Status

- Total number of hours logged by HANSA – 3800 hours
- One prototype and fourteen production standard aircraft have been built
- Presently flying in 6 flying clubs across India

Geometry

Overall length	7.6 m (25 ft)
Overall height	2.61 m (8.5 ft)
Wing span	10.47 m (34.35 ft)
Wing area	12.47 m^2 (41 ft^2)
Cabin width	1.07 m (3.5 ft)

Weight

Empty weight (Night operations with lightning protection)	550 kg (1212 lb)
All-up-weight	750 kg (1653 lb)
Useful load (including fuel)	200 kg (441 lb)
Usable fuel capacity	85 ltr

Electrical system

12 V, 18 Ah maintenance free battery

14 V, 40 A external generator

Power plant

Rotax 914F3 (Turbocharged engine with a 100 bhp max continuous power @ 5500 rpm and 115 bhp @ 5800 rpm)

Propeller

Two blade constant speed Hoffmann propeller of 173 cm (68 inch) diameter

Performance

Take-off distance	413 m (1355 ft)
Landing distance	540 m (1770 ft)
Max rate of climb	198 m/min (650 ft/min)
Max cruise speed	178 km/hr (96 KIAS)
Stall speed (with flaps 20°)	87 km/hr (47 KIAS)
Endurance	4 hr

Instruments I Avionics

Airspeed indicator, altimeter, vertical speed indicator, artificial horizon, directional gyro, turn coordinator, outside air temperature, magnetic compass, volt/ammeter and indicators for RPM, manifold pressure, oil pressure, oil temperature and cylinder head temperature, Bendix king KX-125 NAV/COM, intercom, emergency locator transmitter (ELT) (GPS Optional for VFR and night flight operations)

Multi-Mission General Aviation Aircraft : C-NM5

Joint Development by CSIR - National Aerospace Laboratories and Mahindra Aerospace Pvt. Ltd.

First Flight on 1 September 2011 in Australia
Prototype Manufactured by Mahindra GippsAero.

FEATURES

Multi-Mission	Air Taxi, Training, Tourism, Cargo, Executive Transport
Certification basis	FAR Part 23, Normal Category, Day / Night VFR / IFR
Equipping options	
Standard	Conventional instruments, Stand alone avionics, Limited cabin environment control, Basic audio for pilot and passengers
Deluxe	Glass cockpit with Electronic Flight Instruments System (EFIS), Autopilot integrated with GPS-enabled Nav / Com, Air-conditioning, Improved sound-proofing, Improved cabin audio system

Dimensions

Overall length	8.8 m (28 ft 9 in)
Overall height	3.0 m (9 ft 10 in)
Wing span	10.9 m (35 ft 8 in)
Wing Area	16.0 m^2 (172 ft^2)

Weights

Max take-off weight	1525 kg (3362 lb)
Empty weight	945 kg (2083 lb)
Useful load	580 kg (1280 lb)

Airframe
All metal construction with composite cowling and fairings

Power plant
Lycoming IO-540 engine, 300 bhp @ 2700 rpm, 3-bladed constant-speed propeller

Avionics system
AMS, NAV / COM / GPS, CDI, Transponder, and ELT

Electrical system
24 V DC electrical system
- 28 V, 70 A external generator
- 24 V, 19 Ah maintenance free battery

Performance (ISA)

Take off distance	500 m (1640 ft)
Landing distance	450 m (1476 ft)
Max Level speed	296 km/hr (160 KIAS)
Max Rate of climb	335 m/min (1100 fpm)
Flaps-up stall speed	120 km/hr (65 KIAS)
Flaps-down stall speed	102 km/hr (55 KIAS)
Range (with 320 kg payload)	1300 km (700 nm)
Cruise altitude	3050 m (10000 ft)

Optional systems
Air-conditioning and 2-Axis Autopilot

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