

Short SC.7 Skyvan

The **Short SC.7 Skyvan** (nicknamed the "Flying Shoebox")^[2] is a British 19-seat twin-turboprop aircraft manufactured by Short Brothers of Belfast, Northern Ireland. It is used mainly for short-haul freight and skydiving.

The Short 330 and Short 360 are stretched models of the original SC.7, designed as regional airliners.

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SC.7 Skyvan



Skyvan at RAF Fairford, England

Role	<u>Utility aircraft</u>
National origin	<u>United Kingdom</u>
Manufacturer	<u>Short Brothers</u>
First flight	17 January 1963
Status	Limited Service
Produced	1963-1986
Number built	149
Unit cost	US\$650,000 (1972) ^[1]
Developed into	<u>Short 330</u> <u>Short 360</u>

Design and development

In 1958, Short was approached by F.G. Miles Ltd (successor company to Miles Aircraft) which was seeking backing to produce a development of the H.D.M.106 Caravan design with a high aspect ratio wing similar to that of the Hurel-Dubois HD.31. Short acquired the design and data gathered from trials of the Miles Aerovan based H.D.M.105 prototype. After evaluating the Miles proposal, Short rejected the Caravan.^[3] They developed their own design for a utility all-metal aircraft which was called the **Short SC.7 Skyvan**. The Skyvan is a twin-engined all-metal, high-wing monoplane, with a braced, high aspect ratio wing, and an unpressurised, square-section fuselage with twin fins and rudders.^[4] It was popular with freight operators compared to other small aircraft because of its large rear door for loading and unloading freight. Its fuselage resembles the shape of a railroad boxcar for simplicity and efficiency.

Construction started at Sydenham Airport in 1960, and the first prototype first flew on 17 January 1963, powered by two Continental piston engines.^[5] Later in 1963, the prototype was re-engined with the intended Turbomeca Astazou II turboprop engines of 520eshp;^[6] the second prototype (the first Series 2 Skyvan) was

initially fitted with Turbomeca Astazou X turboprop engines of 666eshp but subsequently the initial production version was powered by Turbomeca Astazou XII turboprop engines of 690eshp. In 1967, it was found that the Astazou XII was temperature limited at high altitudes.^[7] Consequently, in 1968, production switched to the Skyvan Series 3 aircraft, which replaced the Astazou engines with Garrett AiResearch TPE331 turboprops of 715eshp. A total of 149 Skyvans (including the two prototypes)^[8] was produced before production ended in 1986.



Skyvan 3 converted for survey work by Questor Surveys, 1975

Operational history

Skyvans served widely in both military and civilian operations, and the type remained in service in 2009 with a number of civilian operators, and in military service in Guyana and Oman.

Skyvans were used during the infamous death flights at the depths of Argentina's Dirty War in 1977, during which around 4,400 detainees were thrown to their deaths onto the Río de la Plata.^{[9][10]}

Two Argentine Naval Prefecture Skyvans later participated in the 1982 Falklands War. Both aircraft were ferried to Port Stanley in April 1982. One aircraft was damaged by British naval gunfire on Stanley racecourse, and did not fly again; it was finally destroyed by shellfire during British bombardments on 12/13 June 1982. The second aircraft was used at Pebble Island, where it became bogged down in the soft ground, and on 15 May 1982 it was destroyed by a British raiding party.^[11]



SC.7 Skyvan at Oulu Airport

Skyvans continue to be used in limited numbers for air-to-air photography and for skydiving operations. In 1970, Questor Surveys of Toronto Canada converted the first of two Skyvan 3s for aerial geological survey work.

Variants

Skyvan 1

prototype, one built. 2 x Continental GTSIO-520 engines.

Skyvan 1A

re-engined 1st prototype. 2 x 388 kW (520 hp) Turbomeca Astazou II engines.

Skyvan 2

Turbomeca Astazou powered production. 8 Series 2 produced (including the second prototype).

Skyvan 3

Garrett TPE331 powered production. 140 produced (of all Series 3 versions) plus 2 Series 2 were converted.^[12]

Skyvan 3A

higher gross weight version of Skyvan Series 3.

Skyvan 3M

military transport version. It can be used for supply dropping, assault transport, dropping paratroops, troop transport, cargo transport, casualty evacuation, plus search and rescue missions.

Skyvan 3M-200

high gross weight version of Skyvan 3M (MTOW 6,804 kg, 15,000 lb).

Skyliner

deluxe all-passenger version.

Seavan

Maritime patrol version, (SC7-3M-4022), principally used by the Sultan of Oman's Air Force / Royal Air Force of Oman (SOAF / RAFO)



Company military demonstrator in 1982

Operators

Civilian operators

As of July 2009, a total of 40 Skyvan aircraft remained in airline service, with Pink Aviation Services (5), Sonair (1), Swala Airlines (2), Transway Air Services (1), Deraya Air Taxi (3), Layang Layang Aerospace (1), Macair Airlines (1), Malaysia Air Charter (1), Olympic Airways (1), Pan Malaysian Air Transport (1), Wirakris Udara (1), CAE Aviation (1), Deltacraft (1), Invicta Aviation (2), Advanced Air (1), Allwest Freight (2), Era Alaska (3), GB Airlink (1), North Star Air Cargo (5), Skylift Taxi Aereo (1), Skydive Arizona (7), Skydive DeLand (1), Skydive Lonestar (1), Skydive Perris, Sydney Skydivers (2), SkyForce Piotrków Trybunalski (2), Skydive Pennsylvania and Summit Air (2), Eagle Air (2),^[13] Sustut Air (1),^[14] Ryan Air Services,^[15] Nomad Air (2), Aalto University (Helsinki, Finland), Skykef (Israel)

As of September 2018, Skydive Lonestar no longer operates a Skyvan.

As of January 2019 Era Alaska, Ryan Air Services and All West Freight no longer operate Skyvans.

Sydney skydivers no longer own Skyvans.

As of May 2019, Olympic Air (successor to Olympic Airways) no longer operates Skyvans.

Military operators

Guyana

- Guyana Defence Force^[16]

Oman

- Royal Air Force of Oman: Oman continues to operate five of its original 16 Skyvans as of December 2013.^{[17][18]}

Former military operators

Argentina

- Argentine Coast Guard: Bought five in 1971, survivors sold in 1995 following replacement by five CASA C-212 Aviocars.

Austria

- [Austrian Air Force](#) ^[19]

Botswana

- [Botswana Defence Force Air Wing](#)

Ciskei

- [Ciskei Defence Force](#)

Ecuador

- [Ecuadorian Army](#)

Gambia

- [Military of Gambia](#)

Ghana

- [Ghana Air Force](#)^[20]

Indonesia

- [Indonesian Air Force](#)

Japan

- [Japan Coast Guard](#)

Lesotho

- [Lesotho Defence Force – Air Squadron](#)

Malawi

- [Malawi Police Force Air Wing](#)

North Yemen

- [North Yemen Air Force](#)

Mauritania

- [Military of Mauritania](#)

Mexico

- [Mexican Air Force](#)

Nepal

- [Nepalese Army](#)
 - [Nepalese Army Air Service](#)



Austrian Air Force Skyvan

Panama

- Panamanian Public Forces

Singapore

- Republic of Singapore Air Force
 - 121 Squadron, Republic of Singapore Air Force operated Skyvan 3M for Utility transport and Search-and-locate duties from 1973 to 1993.

Thailand

- Royal Thai Police
 - Thai Border Patrol Police

United Arab Emirates

- United Arab Emirates Air Force

Yemen

- Yemen Air Force

Specification (Skyvan 3)

Data from Jane's Civil and Military Upgrades 1994-95^[21]

General characteristics

- **Crew:** 1–2
- **Capacity:** 19 passengers
- **Length:** 12.21 m (40 ft 1 in)
- **Wingspan:** 19.79 m (64 ft 11 in)
- **Height:** 4.60 m (15 ft 1 in)
- **Wing area:** 35.12 m² (378.0 sq ft)
- **Empty weight:** 3,331 kg (7,344 lb)
- **Max takeoff weight:** 5,670 kg (12,500 lb)
- **Fuel capacity:** 1,109 L (244 imp gal; 293 US gal)
- **Powerplant:** 2 × Garrett AiResearch TPE-331-2-201A turboprops, 533 kW (715 shp) each
- **Propellers:** 3-bladed Hartzell HC-B3TN-5/T10282H variable-pitch propeller

Performance

- **Maximum speed:** 324 km/h (201 mph, 175 kn) max cruise at 3,050 m (10,010 ft)
- **Cruise speed:** 278 km/h (173 mph, 150 kn) econ cruise at 3,050 m (10,010 ft)
- **Stall speed:** 111 km/h (69 mph, 60 kn) flaps down, EAS
- **Never exceed speed:** 402 km/h (250 mph, 217 kn) EAS
- **Range:** 1,115 km (693 mi, 602 nmi)

- **Service ceiling:** 6,858 m (22,500 ft)
- **Rate of climb:** 8.3 m/s (1,640 ft/min)
- **Takeoff run to 15 m (50 ft):** 482 m (1,581 ft) (STOL)
- **Landing run from 15 m (50 ft):** 567 m (1,860 ft) (STOL)

See also

Related development

- Short 330
- Short 360

Aircraft of comparable role, configuration, and era

- Antonov An-28
- CASA C-212 Aviocar
- De Havilland Canada DHC-6 Twin Otter
- Fairchild Dornier 228
- GAF Nomad
- Harbin Y-12
- IAI Arava
- LET L-410
- PZL M28

Related lists

- List of civil aircraft
- List of STOL aircraft

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