ALPINE AIR EXPRESS

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SkyQuest International, LLC

BEECHCRAFT 1900D

CARGO CONVERSION STC

YOUR GUIDE THROUGH THE NEW 1900D ALPINE SUPER FREIGHTER, THE LARGEST SINGLE PILOTED CARGO AIRCRAFT.

ALPINE SUPER FREIGHTER

SPECS

Interior
Cabin Height: 5 ft 11 In
Cabin Width: 4 ft 6 In
Cabin Length: 25 ft 2 In
Cabin Volume: 800-900 cu ft
Cargo Door Height: 4 ft 4 In
Cargo Door Width: 4 ft 1 In

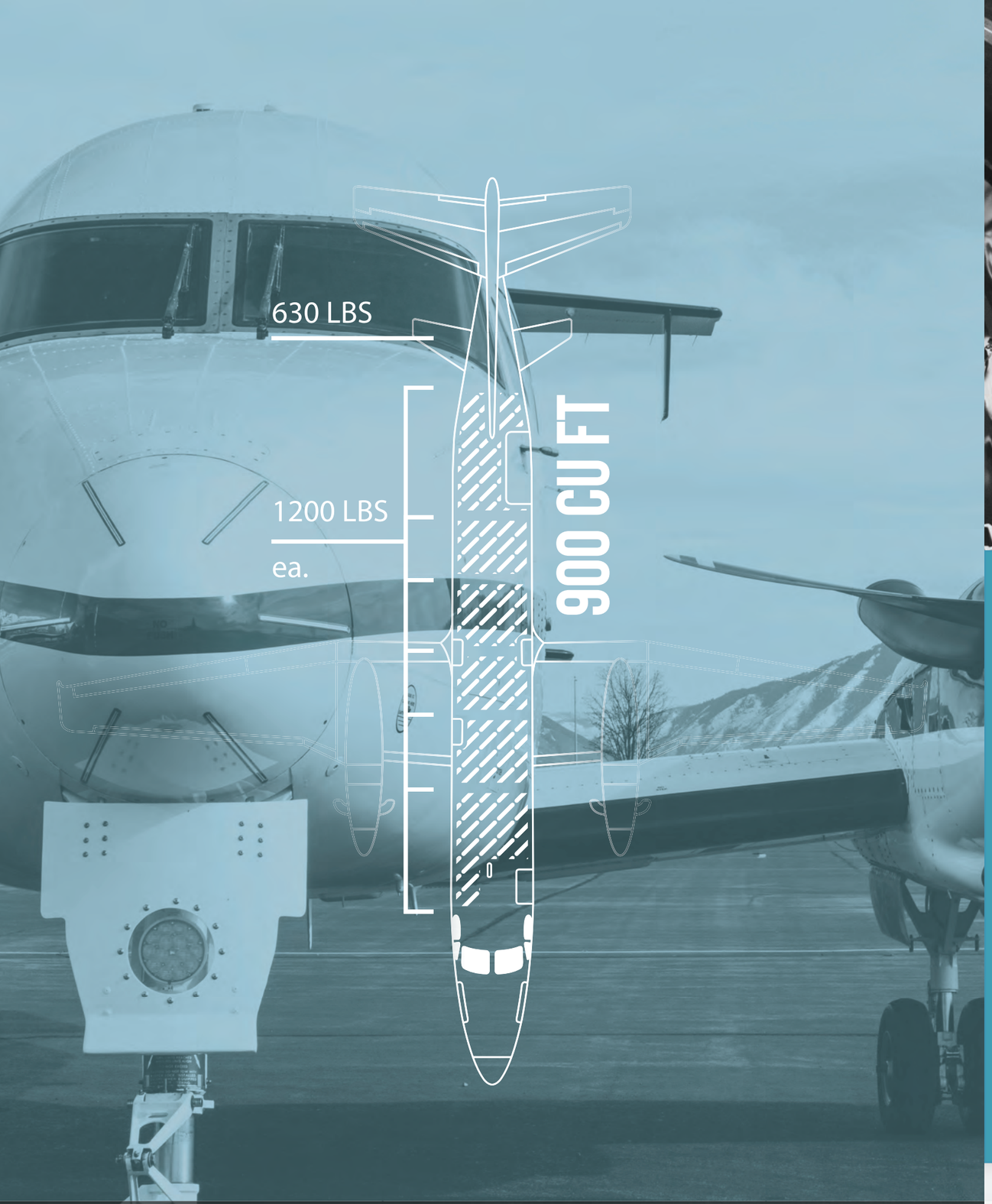
Occupancy
Crew: 1

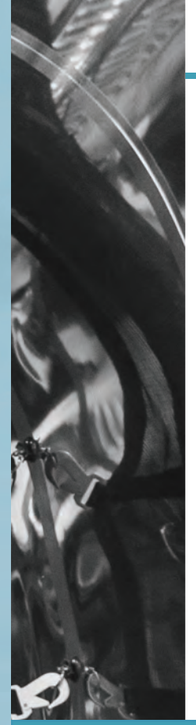
Performance
Rate of Climb: 2625 fpm
Max Speed: 280 kts
Normal Cruise: 260 kts
Economy Cruise: 230 kts

Operating Weights
Max T/O Weight: 17120 Lbs
Operating Weight: 10790 Lbs
Empty Weight: 9791 Lbs
Fuel Capacity: 4458 Lbs
Total Payload: 7439 Lbs

Power Plant
Engines: 2
Engine Mfg: Pratt & Whitney Canada
Engine Model: PT6A-67D

Range
Normal Range: 1279 nm
Max Range: 1356 nm





CONVERSION OVERVIEW

This FAA-approved STC (STC SA00905DE) allows a Beechcraft 1900D aircraft to be converted to a dedicated cargo configured Aircraft. The intent of this supplemental type certificate is to provide an alternate configuration to maximize the use of full usable cargo volume. Further, the aircraft is intended to operate as a 9 or less configuration (all-cargo), thereby enabling single-pilot operations.

This interior modification includes the removal of certain elements of the aircraft configuration, installation of new components, and modifications in areas related to structure, mechanical, and electrical systems. The following is an overview of the configuration changes, followed by a more detailed description of the key features included as well as the benefits they entail.

STRUCTURAL CHANGES

1) REMOVAL OF THE FOLLOWING

a) Cabin passenger seating;
b) Upper cabin upholstery trim, cabin headliner, cabin sidewall upholstery, escape hatch upholstery, cabin windows and moldings, aft cargo compartment upholstery, and expanded cargo compartment liner;
c) RH and LH forward cabin partitions, RH forward coat closet, aft cargo compart ment partition, and cabin curtain;
d) Cabin carpets and cargo floor covering.

2) MODIFICATION OF THE FOLLOWING

a) Removal of three (3) of the cabin dynamic absorbers (OPTION: removal of all cabin dynamic absorbers).

3) INSTALLATION OF THE FOLLOWING

a) New emergency exit in the forward cabin area (using existing window) using design and construction techniques equivalent to the existing structure;
b) Optional single crewmember jump-seat installation;
c) Aluminum window plugs fabricated from 0.125" 6061-T6 in place of the windows;
d) Aluminum interior liner fabricated from 0.025" 2024-T3 aluminum;
e) Cargo nets located at FS 192.5, 235.5, 297.5, 355.5, 415.5, and 513.5, secured to intercostals at the attachment points;
f) Cargo flooring protection overlay (Gillfab 5065 sandwich panel);
g) Cargo loading and unloading roller system.

MECHANICAL SYSTEM CHANGES

1) REMOVAL OF THE FOLLOWING

a) Right hand oxygen bottle;
b) Cabin oxygen masks, comfort air ports, and air valve escutcheons;
c) Cabin overpressure indicator;
d) Cabin fire extinguisher (cockpit fire extinguishers will remain).

2) MODIFICATION OF THE FOLLOWING

a) Modification of crewmember comfort air ducts;
b) Modification of breathing oxygen system.

3) INSTALLATION OF THE FOLLOWING

a) Single crewmember breathing oxygen mask.

ELECTRICAL SYSTEM CHANGES

1) REMOVAL OF THE FOLLOWING

a) Passenger compartment lighting (indirect, isle, under-seat, dome, reading, etc.), and no smoking/fasten seat belt warning lights;
b) Passenger briefing system (briefer controller, computer, relay box, passenger OH speakers).

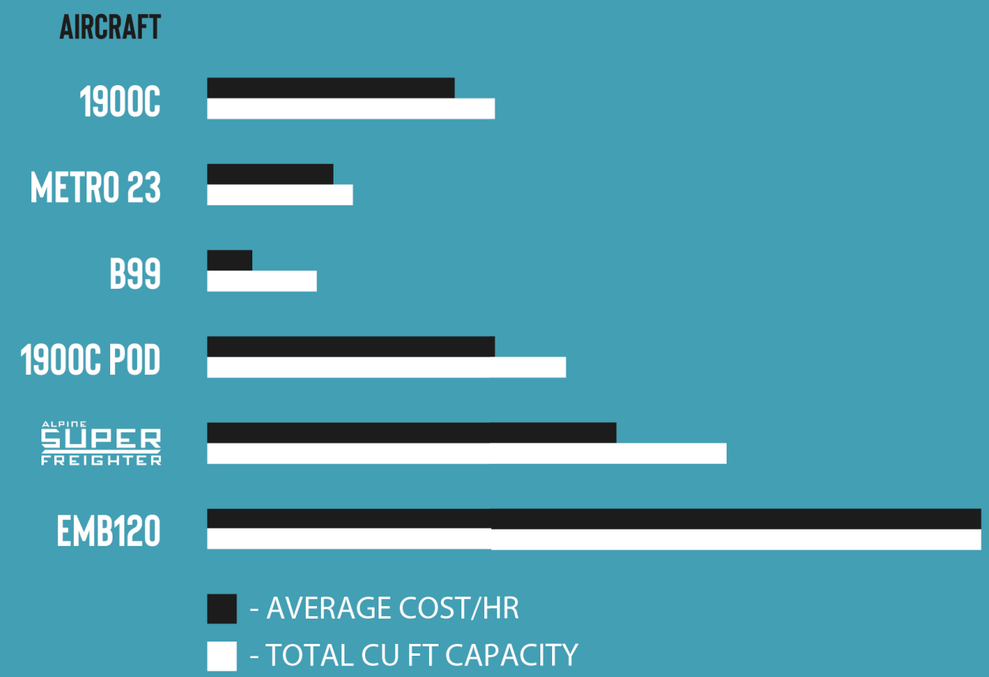
2) INSTALLATION OF THE FOLLOWING

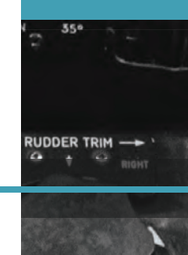
a) Cargo compartment lighting and switches;
b) Emergency exit lighting as required.

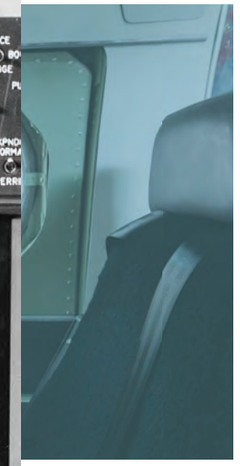
BENEFITS

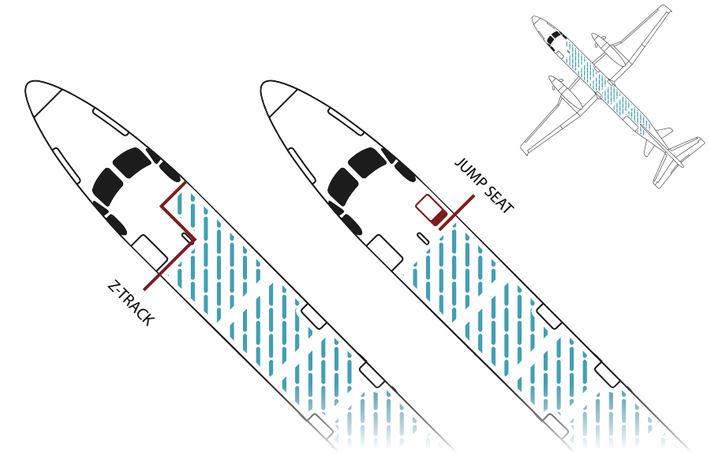
Based on average aircraft cost per hour and package characteristics in the Air Cargo industry, the Alpine Super Freighter will fill a need that was not fulfilled before. The 1900D aircraft will haul large quantities of cargo while being extremely cost effective when compared to its counterparts. This extraordinary achievement is due to many years of engineering and planning to bring a conversion that was created with the carrier and client in mind.

COST COMPARISON









DETAILED KEY FEATURES

NEW FLIGHT CREW EMERGENCY EXIT

In order to enable installation of this full-cargo configuration, the Alpine Super Freighter modifies the forward portion of the cabin to accommodate the required secondary emergency exit by adding a new emergency exit door on the right-hand side of the cabin located within immediate proximate to the pilot crew area. The new emergency exit will incorporate the existing window to ensure that the pilot's views are not altered. The emergency exits will be modified to ensure that they cannot be opened during air cargo operations.

OPTIONAL SINGLE JUMP SEAT INSTALLATION

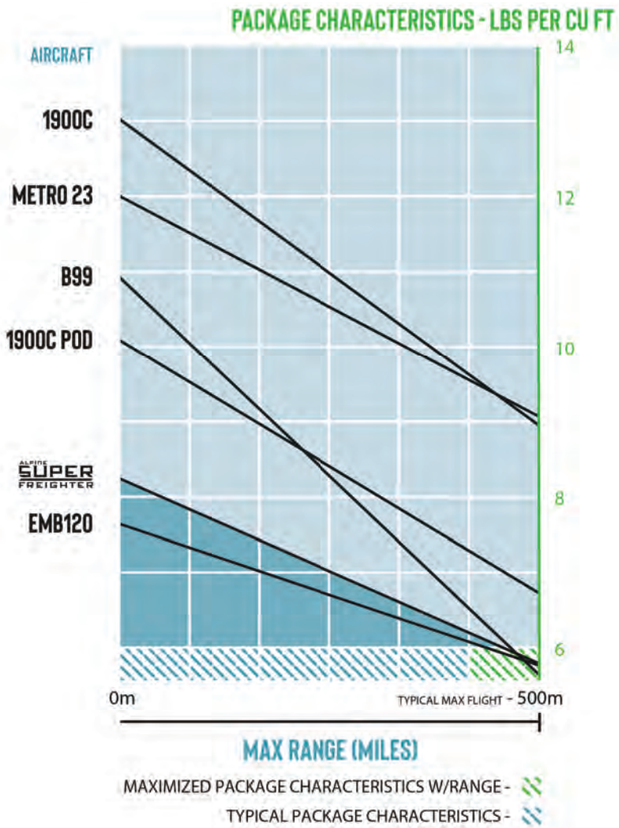
An optional single jump seat will also be installed to allow for transportation of a support crewmember when required. The optional seat is an existing passenger seat that will be relocated just aft of the right-hand pilot's seat on existing OEM seat tracks in an area that can be utilized for cargo storage when the jump seat is removed.

ALL NEW Z-TRACK

When the jump seat is removed the optional Z-Track can be installed to restrain the cargo, this configuration will get the total cargo volume to the max 900 cu ft. The Z-Track is mounted across the roof, walls and utilizes the jump seat's brackets on the floor to secure the Z-Net.

ALSO INCLUDED

Placards



BENEFITS

Correctly sizing small feeder aircraft is a process based on lane requirements (amount of outbound/inbound cargo volume) average package density (lbs/cu ft), aircraft pricing and reliability. Alpine determined that average stage lengths are less than 500 miles and typical package density is between 5.5 – 6.0 lbs/cu ft. Inefficient aircraft planning can result in aircraft that fill their cubic capacity before they fill their weight capacity. Flight planners can exchange shorter range for increased useful load, but most efficient flights occur when cubic capacity is achieved at the same time that max carry weight occurs. Alpine determined that equilibrium occurs using the Beech 99, the Alpine Super Freighter 1900D and the EMB120. Volume requirements less than 450 cu ft is most efficiently carried in a 99. The 1900D can carry up to 900 cu ft and an EBM120 can carry up to 1185 cu ft. The most cost-efficient aircraft from 700-900 cu ft is, without question, the 1900D.