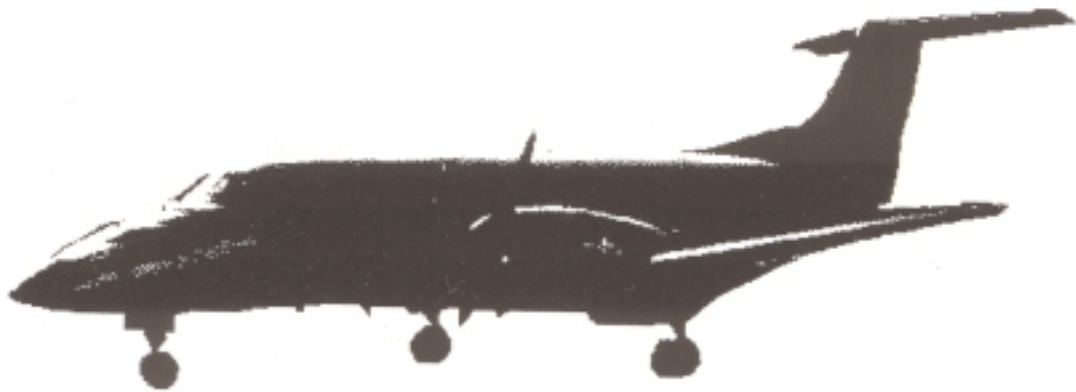


# **WORLDWIDE AIRCRAFT SERVICES, INC**



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**EMB-120**

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**CARGO CONVERSION**

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**STC # ST00598WI**

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*"This aircraft is a Model EMB-120 airplane adapted to carry cargo restraint (barrier) nets located at Fuselage Stations passenger seating, except for jump seat is eliminated All supplemental equipment associated with the passenger carrying operation, in the cabin is removed."*

# THE EMB-120 AIRCRAFT

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## THE AIRPLANE

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When the EMB-120 Brasilia was introduced in May 1985 with its launch customer, the US-based Atlantic Southeast Airlines (ASA), it changed regional air travel For the first time in aviation history, small communities and the regional airlines connecting them had an aircraft specifically designed to meet their needs. The first EMB-120 Brasilia was the fastest (300 kt of cruise speed), the lightest (25,353 Ib of maximum take-off weight) and the most economical aircraft in the 30-40 seat range.

Embraer has sold 329 EMB-120 Brasilia aircraft to date, and continues to make technological updates, resulting in reduced operational and maintenance costs, and improved dispatch reliability. Within a 10-year period aimed at improving the EMB-120 design and maintenance to promote passenger comfort and reduction of operational costs, Embraer has been incorporating numerous changes in the Brasilia.

Modifications leading to even greater passenger comfort include a 31-in Seat pitch and 7 psi pressurization in the cabin. The 30-seat twin turboprop is now equipped with powerful 1,800 shp Pratt & Whitney PW118A turboprop engines, and has an even greater cruise speed (315 kt) as compared with the original aircraft speed, and its maximum take-off weight has increased to 26,433 Ibs.

Recently, Embraer implemented a passive control system for noise and vibration The improvement in comfort is perceptible to passengers, since noise and vibration were reduced considerably and are better distributed along the length of the cabin.

The aircraft has offered superior safety levels since its inception- designed in compliance with FAR 25 requirements - the same that apply to large jetliners such as the Boeing 747. Extensive ongoing testing has been carried out to ensure the aircraft's continued reliability and safety. On March 12. 1996, Embraer received a special certificate of recognition from the FAA for initiating an intensive and comprehensive test of the EMB-120 Brasilia in supercooled large droplet icing conditions which demonstrated the aircraft's safety.

The Brasilia is flown by 29 companies in 14 countries. The world fleet has logged more than five million flight hours and carried more than 60 million passengers. At present, the EMB-120 Brasilia commands a 24% share of the worldwide sales market, in the 21-40 seat category.

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# EMB-120 SPECIFICATIONS

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## EXTERNAL DIMENSIONS

Overall Span 64.90 ft (19.78 m)  
Height (maximum) 20.84 ft (6.35 m)  
Overall length 65.62 ft (20.00 m)

## PASSENGER CABIN DIMENSIONS

Width 6.90 ft (2.10 m)  
Height 5.77 ft (1.76 m)

## BAGGAGE COMPARTMENT

Passenger Configuration  
    Volume 222 cu.ft ( 6.30 cu.m)  
    Capacity 1,543 lb (700 kg)  
Cargo Configuration  
    Volume 1,185 cu.ft. (33.6cu.m)

## DESIGN WEIGHTS NOTE: 120ER Model

Maximum takeoff 26,433lb (11,990 kg)  
Maximum landing 25,794lb (11,700 kg)  
Maximum zero fuel 24,030 lb (10,900 kg)  
Passenger Configuration  
    Typical basic operating 16,711 lb (7,580 kg)  
    Maximum payload 7,319 lb (3,320 kg)

## CARGO CONFIGURATION

    Typical basic operating 15,050 lb (6,772 kg)  
    Maximum payload 9,013 lb (4,056 kg)

## PERFORMANCE SUMMARY

Takeoff field length (SL, ISA, MTOW) 5,118 ft (1,560 m)  
Landing field length (SL, MLW) 4,528 ft (1,380 m)  
Maximum cruise speed (ISA, Typical Cruise Weight, FL230) 314 kt (582 kmlh)

*"The Brasilia is flown by 29 companies in 14 countries The world fleet has logged more than five million flight hours and carried more than 60 million passengers. At present, the EMB-120 Brasilia commands a 24% share of the worldwide sales market in the 21-40 seat category" (Aug 98)*

## EMB-120 Brasilia Fact Sheet

# THE EMB-120 CARGO HAULER

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## EMB-120 CARGO SPECIFICATIONS

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Cargo up to 6000 pounds may be distributed equally between compartments 1, 2 and 3. The remainder of cargo allowed by the aircraft weight and center of gravity limitations may be divided between compartment 1, 2, 3 and 4. Loose packages retained by the barrier nets must not exceed the floor loading of 100 pounds per square foot, or the total compartment capacities as noted above. Loose packages in excess of 75 pounds and 15" square are considered non-standard articles and may be secured in any compartments (subject to the total weight and floor limitations noted) by the use of the floor fittings and tie-down devices. This aircraft is equipped, in all compartments, with anchor plate cargo tie-down rings and cargo track with an allowable load of 4000 pounds vertical or 3000 pounds around any element of a 45 degree cone with the apex at the ring attachment fitting. Each tie-down ring will restrain a maximum weight of 222 pounds subjected to a 9g horizontal acceleration.

The maximum cargo weight limitations for this alteration is predicated on the following factors: aircraft empty weight, aircraft zero fuel weight and the aircraft's maximum permissible take off weight (gross weight) by aircraft model(s) ie; 120(RT)(ER)}. The aircraft empty weight with CG, empty MAC # along with zero fuel and gross weight limitations are found in the aircraft weight and balance manual.

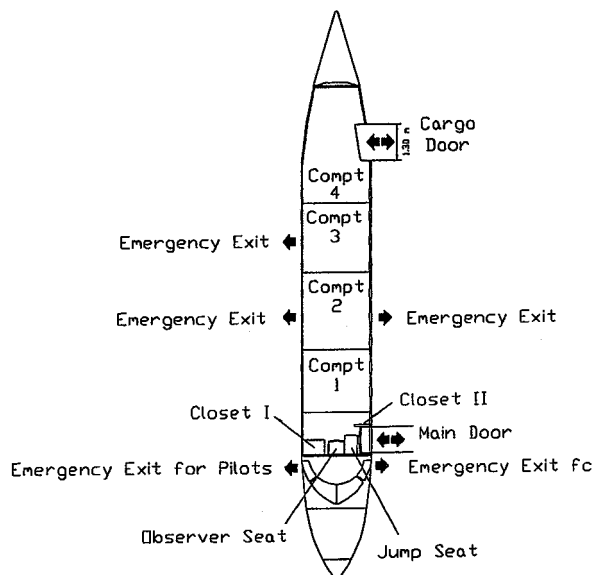
Cargo nets are provided to restrain cargo. They may be installed at fuselage stations 219, 300, 399 and 488 (approximately). This STC provides for a supplemental auxiliary tie down (PN #CS-WW120-2) net capable of securing individual or collective loads up to 2600 lbs. The net is of rectangle design with mesh from side to side and hooks to attach to the forward floor seat tracks. The net has adjustable hooks and straps located on the aft sides with quick disconnect hooks on both ends to pull over cargo and secure as appropriate. The net also has D-rings located fore to aft and left to right every 24" on its outside face to allow the operator to use the net to secure articles of smaller sized packages by connecting the adjustable straps and relocating them to an appropriately located D-ring on the net.

The net hooks are secured to the floor track by using Ancra 40340-10 cargo tie down rings which can be located every 24" on the applicable tracks. Individual relocatable tie down fitting (Ancra PN # 40340-10) shall not be located closer than 12" to any barrier net hook ring. For individual containers or packages, the net can be wrapped around or over the article using the adjustable straps to quarter the article and secure it using appropriately located D-rings on the net and floor. The adjustable straps located on each net can be removed by unclasping and used to secure packages or cargo individually or collectively as required (there are 4 removable straps per net). Each strap is adjustable from 12" to 60" and its maximum load rating is 500 lbs per strap.

Standard loading procedures concern all articles of freight or cargo that weigh less than 75 lbs (U.S.) single unit weight. The physical dimension of any freight package is of no concern if its total weight is less than 75 lbs. The operator is unrestricted in loading of these articles into any loading compartment within the aircraft by quantity or size, (as long as floor loading and aircraft weight and balance are maintained within operating limitations) without further restraining beyond the vertical barrier nets. Any freight that falls outside of this weight limitation (75 lbs) shall be treated as nonstandard loading and must be handled as such.

The procedures to be used for freight or cargo that is non-standard to the typical loads expected to be carried in this aircraft are also outlined. Non-standard loads are defined as freight or cargo that exceed the 75 lbs (U.S.) single unit weight and packages or containers that exceed the length of any of one cargo loading compartment.

## THE EMB-120 / WASI CARGO MODIFICATION LAYOUT



Regulatory requirements do not allow the carriage of passengers in a class "E" cargo compartment. Use of the jump seat (flight attendant seat) for the carriage of passengers is prohibited when the aircraft is hauling freight or cargo in its' class "E" cargo compartment. The smoke curtain and net #1 and #2 must be disconnected and retracted to allow clear and unrestricted access to the right hand overwing exit when the jump seat is occupied.

*"The Worldwide Cargo EMB-120 fits a rather unfilled market between the heavy transport category aircraft and the older Part 23 cargo aircraft. We believe this market will continue to grow and provide more opportunities for operators and lessors of this aircraft in the cargo market."*

*"Worldwide Aircraft Services, Inc, ~ Marketing Department*

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## **EMB-120 CARGO SPECIFICATIONS**

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### **COMPARTMENT "1"**

Location: F .8. 219.00 to F .S. 300.00  
Length: 6.75 Linear Feet  
Floor Area: 33.10 Square Feet  
Maximum Weight: 2600 Ibs 11179 kg  
Maximum Volume: 232 Cubic Feet  
Maximum Floor Load: 3310 Ibs

### **COMPARTMENT "2"**

Location: F .S. 300.00 to F .S. 399.00  
Length: 8.25 Linear Feet  
Floor Area: 40.40 Square Feet  
Maximum Weight: 2600 Ibs 11179 kg  
Maximum Volume: 284 Cubic Feet  
Maximum Floor Load: 4040 Ibs

### **COMPARTMENT "3"**

Location: F .S. 399.00 to F .S. 488.00  
Length: 7.4 Linear Feet  
Floor Area: 36.26 Square Feet  
Maximum Weight: 2600 Ibs /1179 kg  
Maximum Volume: 255 Cubic Feet  
Maximum Floor Load: 5082 Ibs

### **COMPARTMENT "4"**

Location: F.S. 488.00 to F.S. 635.00  
Length: 12.25 Linear Feet  
Floor Area: 60.0 Square Feet  
Maximum Weight: 12131bs /544 kg  
Maximum Volume: 391 Cubic Feet  
Maximum Floor Load: 1200 Ibs

## **TOTAL PAYLOAD: 9013 IBS /4087 KG**

*(Note: Total varies depending on aircraft model and empty weight)*



## **THE MODIFIED CABIN**

(Forward facing view)



## **THE MODIFIED CABIN**

(Aft facing view)