

General Specification for GECAS Embraer 190 LR

Manufacturer, Model / Series: Embraer 190 LR

Specification basis: PTD 190/195 GE Commercial Finance, Rev. 1 dated November 2002
Proposed spec changes GECAS purchase agreement
Optional Equipment

General Information

Engine installation: 2 x CF34-10E5
Take off thrust - normal 16,650 lbs
- max 18,500 lbs

Maximum Ramp Weight: 50,460 kgs / 111,245 lbs
Maximum Take-off Weight (MTOW): 50,300 kgs / 110,893 lbs
Maximum Landing Weight (MLW): 43,000 kgs / 94,799 lbs
Maximum Zero Fuel Weight (MZFW): 40,800 kgs / 89,949 lbs

Certification Basis: JAA (JAR 25) and FAA (FAR 25)
Brazilian Depart. of Civil Aviation Regulations

Noise Certification: Stage III

Auto land/Approach Category: CAT IIIa – GECAS Option (available 12 months after GECAS first delivery)

Units of Measure: Metric

Detailed Specification by System (ATA)

ATA 11 – Placards and Markings

Interior placards
Paint Scheme – exterior livery

ATA 21 – Air Conditioning

Standard air conditioning system

ATA 22 – Autoflight

Dual AFCS
Auto-throttle

ATA 23 – Communications

VHF modules x 2, with 8.33 MHz spacing
Full provisions for 3rd VHF dedicated to ACARS – GECAS Option
Full provisions for HF system – GECAS Option
3 digital audio panels in cockpit
CVR – solid state 2 hours recording (combined dual CVR/DFR)
SELCAL – GECAS Option
Interface between SELCAL and VHF/HF
Complete provisions for SATCOM – GECAS Option
Boarding music and pre-recorded announcement system – GECAS Options
PA system – standard from cockpit and 2 x F/A stations

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ATA 23 – Communications (continued)

Full provisions for Data-link – CMU/ACARS - GECAS Option
Interface between ACARS and VHF
Full provisions for printer in Cockpit linked to CMC, ACARS and FMC

ATA 24 – Electrical Power

Standard electrical system
Engine generators x 2 - 40 kVA IDG
APU generators x 1 - 40 kVA
Emergency generator – RAT
27 Ah Ni-cad batteries x 2 for APU start and avionics back-up

ATA 25 – Equipment / Furnishings

Economy class seating – 2 x 2, 96 seats @ 32" pitch
In-arm tray forward row
Life vest pouch under each seat
Flotation cushions installed – GECAS Option
Recline
Standard configuration for JAA, but incorporates FAA requirements
Provisions for moveable class divider – GECAS Option

Flight crew

Captain, F/O and single observer seats
Sheepskin covers for pilot seats
Headrests for pilot seats
Pilot foot rests – GECAS Option

2 F/A seats, with aft folding F/A seat, each with communications handset
3rd F/A seat installed – GECAS Option

Galleys – standard layout

Three galleys two forward and one aft

Lavatory – forward LHS of cabin, forward of L1 door

Vacuum system

Lavatory – aft cabin

Vacuum system
Handicap access
Baby diaper table

Safety Equipment – locations, quantities and requirements TBD

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ATA 25 – Equipment / Furnishings (continued)

Passenger Service Units

Air gaspers

Reading lights

Oxygen generators with 3rd mask in each PSU – GECAS Option

12-minute Oxygen generators

Forward Under Floor Cargo Compartment

Located below passenger cabin and forward of center wing box
Class 'C' compartment with ventilation, smoke detection and fire
extinguishing - 60 minute diversion to a suitable airport

Live animals forward baggage compartment – GECAS Option

Cargo door sill protection – GECAS Option

Cargo nets

Aft Under Floor Cargo Compartment

Located below passenger cabin and aft of center wing box

Class 'C' compartment with ventilation, smoke detection and fire
extinguishing - 60 minute diversion to a suitable airport

Cargo door sill protection – GECAS Option

Cargo nets

ATA 26 – Fire Protection System

Standard system

ATA 27 – Flight Control System

Fly-by-wire flight control system consisting of primary and secondary flight
controls, excluding ailerons

ATA 28 – Fuel System

16,000 litres

Wing tanks

Fuel measurement in kgs

ATA 29 – Hydraulic System

Standard system – 3 independent systems 3,000 p.s.i.

ATA 30 – Ice and Rain Protection

Standard system – wing and intake cowl anti-ice

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ATA 31 – Indicating and Recording System

5 x Active matrix liquid crystal, full color displays
2 x Cursor control devices
EFIS – PFD and ND displays for Captain and F/O
EICAS displays x 1 – center instrument panel
DFDR – solid state recording (combined dual CVR/DFR) – up to 2 hours
audio and 256 wps
Modular avionics units x 3
Centralised maintenance computer x 1
Windshear detection from EGPWS and guidance from AFCS system

ATA 32 – Landing Gear System

Brakes x 4, 3 rotor carbon
Main tires x 4, H40 x 15-19 bias ply rated for 235 mph
Nose tires x 2, 24 x 7.7 Type VII 14 PR rated for 235 mph
Nose wheel steering through pilot's hand wheel and/or rudder (limited)

ATA 33 – Lighting Systems

Standard lighting and emergency lighting provided
Red beacons
Tail logo lights
Emergency escape path lighting – floor mounted photo-illuminant
Aft cabin lighting control panel integrated with F/A panel

ATA 34 – Navigation

IRS x 2
Provisions for 3rd IRS – GECAS Option
FMS x 2, ACARS compatible – GECAS Option to install 2nd FMS
GPS x 2 – GECAS Option to install 2nd GPS
Radio Altimeter x 2 – 2nd RA GECAS Option
Air Data System – integrated ADS
ATC Transponders x 2
DME modules x 2 (2nd DME now standard)
ADF module x 1
Complete provisions for 2nd ADF module – GECAS Option
VHF Navigation module x 2, VOR/ILS/Marker – FM immunity
Weather radar x 1
EGPWS x 1
RVSM capability
TCAS system x 1 – change 7.0 TCAS 2000
CAT IIIa – GECAS Option available 12 months after first GECAS delivery
Space provisions for HGS

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ATA 35 – Oxygen

Chemical oxygen generators x 48 for passengers – 12 minutes
Lavatory – single generator with 2 masks
F/A – one generator with masks for each F/A station
Flight crew oxygen bottle – 50 cubic feet
Flight crew full donning mask x 3

ATA 36 – Pneumatic System

Standard pneumatic system

ATA 38 – Water/Waste System

Two vacuum lavatories – Forward L/H and Aft L/H
Potable water – 110 litres is standard
Water heater in lavatories

ATA 49 – APU System

APU installed in aft fuselage
Provides bleed air and electrical
Start up to 30,000 feet, operates to 33,000 feet

ATA 52 – Passenger Doors

L1 passenger door – L/H, Type I
Provisions for manual airstairs at L1 – GECAS Option
R1 service door – R/H, Type I
L2 passenger door – L/H, Type I
R2 service door – R/H, Type I
Cargo compartment doors – aft and forward of wing center box R/H
Each cabin passenger and service doors have slides installed
One Type III Overwing Emergency exit door on R/H and L/H