

A three-spool by-pass turbojet with a high by-pass ratio, the turbojet having a front fan and a rear fan at the front of an intermediate casing that presents an outer structural grid in the by-pass air flow and an inner structural grid in the main air flow, the fans having blades that extend radially outwards to a fan casing, which fan casing outwardly defines the by-pass air flow, the turbojet also having a low-pressure compressor for compressing air coming into the channel for the main air flow, said front fan and said rear fan being rotated directly, and separately, by two shafts that are coaxial, wherein the blades of the rear fan extend into the by-pass air flow from a wheel that is connected to its drive shaft via a downstream ring of rotor blades in the low-pressure compressor, said low-pressure compressor also comprising at least one upstream ring of rotor blades that is driven by the drive shaft for the front fan, and an outer stator in the bore from which grids of stator blades extend, said grids being interleaved between the rings of rotor blades, said outer stator being carried by the fan casing via a second intermediate casing having a second outer structural grid in the by-pass air flow between the blades of the front fan and the blades of the rear fan, and a second inner structural grid in the main air flow, and wherein the first intermediate casing supports the rotary shaft of the rear fan via an axial thrust bearing, and the drive shaft of the front fan via an inter-shaft bearing, and additional bearings are also interposed between said second intermediate casing and said shafts.