

737-100/-200 specifications

Many different gross weight, fuel capacity, range and engine combinations of the 737-100 & -200 were built. They are detailed here.

A total of 1,144 737-100s and -200s were manufactured between 1967 and 1988. Only 30 were the shorter fuselage -100 model, the last of which was built in 1971. The remaining 1,114 aircraft were -200s, comprising 249 -200s and 865 -200 Advanced (-200A) aircraft.

The -100 was nominally a 100-seat aircraft, and a launch order was placed by Lufthansa. Most airlines required a larger aircraft, and the -200 was launched shortly after with the first aircraft being delivered in 1967. The -200 had a fuselage stretch of six and a half feet and could accommodate another two seat rows of passengers, thereby adding up to 12 seats.

Production of the basic -200 continued until 1971 and up to line number 279. A total of 249 were produced. Later incorporations of aerodynamic improvements and structural upgrades to allow a longer range capability led to the -200A model. Production started with line number 280 in 1971 and continued for a total of 865 units until 1988, by which time the 737-200 had been superseded by the 737-300.

Specifications

-100 Series

The -100 model could accommodate 103 passengers in an all-economy layout with a 34-inch seat pitch, or 118 passengers in a high-density 30-inch seat pitch configuration.

The -100 has a maximum take-off weight (MTOW) of 97,000lbs and usable fuel tankage of 3,540 US Gallons (USG). Higher weight models had an MTOW of 110,000lbs and fuel capacity of 4,720 USG (see table, page 7). These aircraft were powered by the Pratt & Whitney (PW) JT8D-7, rated at 14,000lbs thrust.

-200 series

The basic -200 variant can accommodate 115 passengers in an all-economy layout at 34-inch seat pitch, but 130 passengers with a 30-inch seat pitch. The initial -200 model has an MTOW of 100,000lbs and fuel capacity of 3,460 USG. While all -200s were powered by the JT8D-9/9A rated at 14,500lbs,

another four MTOW variants were produced. These were 103,000lbs, 109,000lbs, 110,000lbs and 115,500lbs. The first two of these had fuel capacities of 4,190USG and 4,230USG respectively, while the heaviest two had fuel capacities of 4,780USG. These aircraft have still-air ranges varying between just over 1,000nm and 1,800nm.

-200C & -200QC series

In addition to the passenger model, Boeing also developed quick change (-200QC) and convertible (-200C) variants of the basic -200.

The 737-200C can accommodate seven 88-inch wide by 125-inch long, or seven 88-inch wide by 108-inch long containers. Each 108-inch wide container has an internal volume of 352 cubic feet, while each 125-wide container has a volume of 390 cubic feet. This takes total containerised volume to 2,468 cubic feet and 2,730 cubic feet respectively. This can be added to by 875 cubic feet of belly space, taking total freight volume to 3,343 and 3,605 cubic feet respectively (see table, page 7). This compares to a total freight volume of about 4,740 cubic feet for the 737-300SF.

The -200C has a maximum zero fuel weight (MZFW) of 88,000lbs, but there are options for 92,000lbs and 95,000lbs. The aircraft has an operating empty weight (OEW) of 61,100lbs, giving it a gross structural payload of 26,900lbs with the standard MZFW. This increases to 27,100lbs and 28,200lbs with the higher MZFW options.

The tare weight of the seven containers is about 1,600lbs. Adding a further 500lbs for crew gives the aircraft a net structural payload of 24,800-26,100lbs (see table, page 7). This allows a maximum packing density of 7.4lbs per cubic foot.

The -200QC is designed to be changed between passenger and freighter configurations in a short period for mixed passenger and freight operations, so it keeps passenger overhead bins installed and has a lower cabin height than the -200C. The -200QC therefore has to be loaded with containers that are shorter in height and have a smaller volume than those used on the -200C. The containerised freight volume of the -200QC is therefore less than that of the -200C.

A total of 1,114 737-200s were built between 1967 and 1988. Production of the Advanced model started in 1971 from line number 280 to 1,144. There are five different MTOW variants of the -200 basic and five different MTOW variants of the -200Advanced.



Boeing did not deliver any dedicated freighter versions of the -200, but two passenger-to-freighter modifications are available from Aeronautical Engineers Inc (AEI) and Pemco, which contracts Stambaugh Aviation to do the conversion work. Details of these modifications can be examined (*see 737-200 modification & upgrade programmes, page 10*).

-200A series

Demand for better performing aircraft led to the 737-200A. The main differences between the -200 basic and -200A are: higher thrust rated variants of the JT8D; increased MTOW; improved wheels, brakes, tyres and landing gear; and a stronger wing structure. All aircraft from line number 280 onwards, which was built in 1971, were Advanced models. Aircraft built from 1984 onwards had some composite materials used in their structures.

The three lowest gross weight models of the -200A have MTOWs of 115,500lbs, 117,000lbs and 119,500lbs and fuel capacity of 5,160USG (*see table, this page*). This gives the three aircraft a range of 1,600nm, 1,700nm and 1,900nm with a payload of 120 passengers. These are powered by either the JT8D-15/15A or -17/17A engines rated at 15,500lbs and 17,000lbs thrust.

Two higher gross weight models were developed, with MTOWs of 124,500lbs and 128,100lbs. These respectively have higher fuel capacities of 5,550USG and 5,970USG, and have ranges of about 2,100nm and 2,300nm (*see table, this page*); thereby doubling the original range of the basic -200.

-200AC & -200AQC series

The advanced -200C/QC have higher MZFWs and OEWs than the non-advanced models. The MZFW for the -200C is 95,000lbs with an option for 99,000lbs. The aircraft's OEW is 65,700-69,800lbs, taking gross structural payloads to 29,300-33,000lbs.

The aircraft have the same volumetric capacity of 3,343 and 3,605 cubic feet as the -200C/-200QC variants. The -200AC's higher gross structural payload gives it a net structural payload of 27,200-30,900lbs when tare weight of containers and crew has been taken into consideration. This gives the aircraft a maximum packing density of 8.0-8.5 lbs per cubic foot.

There are also passenger-to-freighter modification programmes for the 737-200. The -200A has a net structural payload of 32,000-35,000lbs following conversion, and specifications for these aircraft are outlined (*see 737-200 modification & upgrade programmes, page 10*). **AC**

737-100 SERIES

Variant	-100	-100	-100
MTOW lbs	97,000	103,000	110,000
Fuel volume USG	3,540	3,540	4,720
Engines	JT8D-7	JT8D-7	JT8D-7
Seats	103/118	103/118	103/118

737-200 SERIES

Variant	-200	-200	-200	-200	-200
MTOW lbs	100,000	103,000	109,000	110,000	115,500
Fuel volume USG	3,460	4,190	4,230	4,780	4,780
Engines	JT8D-9/9A	JT8D-9/9A	JT8D-9/9A	JT9D-9/9A	JT8D-9/9A
Seats	115/130	115/130	115/130	115/130	115/130

737-200ADVANCED SERIES

Variant	-200A	-200A	-200A	-200A	-200A
MTOW lbs	115,500	117,000	119,500	124,500	128,100
Fuel volume USG	5,160	5,160	5,160	5,550	5,970
Engines	JT8D-17	JT8D-17	JT8D-17	JT8D-17	JT8D-17
Seats	115/130	115/130	115/130	115/130	115/130

737-200F/-200C & -200AF/-200AC SERIES

Variant	-200C	-200AC
MTOW lbs	115,000	119,500
MZFW lbs	88,000/92,000/95,000	95,000/99,000
OEW lbs	61,100	65,700-69,800
Gross structural payload-lbs	26,900/27,100/28,200	29,300-33,000
Freight containers	7 X 88 X 108 7 X 88 X 125	7 X 88 X 108 7 X 88 X 125
Freight container volume cu ft	2,468	2,468
Belly freight volume cu ft	2,730	2,730
Total volume cu ft	875	875
Tare weight & crew lbs	3,343	3,343
Net structural payload lbs	3,605	3,605
Maximum packing density lbs/cu ft	2,100	2,100
Fuel volume USG	24,800-26,100	27,200-30,900
Engines	7.4	8.0-8.5
	4,780	5,160
	JT8D-15/17	JT8D-15/17