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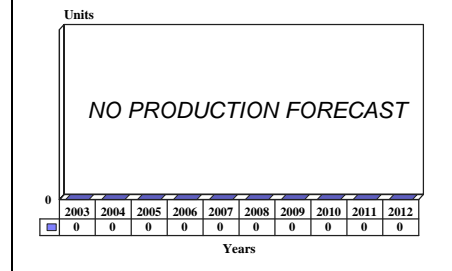
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Ayres Loadmaster 200 - Archived 9/2004

Outlook

- The LM200 program remains suspended
- GATX has been attempting to sell the program

10 Year Unit Production Forecast
2003 - 2012



Orientation

Description. Single-propeller, utility transport aircraft.

Total Produced. Not applicable.

Sponsor. The Loadmaster 200 (LM200) had been privately sponsored by Ayres Corp.

Application. Bulk and containerized cargo transport, passenger transport, firefighting, medical evacuation, reconnaissance.

Contractor. Ayres Corp; Albany, Georgia, USA.

Status. Work on the LM200 is suspended. The program is currently for sale.

Price Range. LM200, \$4.5-\$5.0 million in 2001 US dollars, depending on configuration.

Technical Data

Design Features. High-wing aircraft design powered by a LHTEC CTP800-4T propulsion system similar to the Soloy PT6 Dual Pac. The aircraft is about the same size as the Dornier 328-100, and would be of all-metal construction. It is designed to operate from unimproved airfields.

The landing gear would be fixed tricycle type, with a single wheel on each unit. Ayres might also have sold the aircraft with retractable landing gear, if market conditions warranted. Ayres planned to certify the aircraft with skis and floats.

Dimensions (External)

	<u>Metric</u>	<u>US</u>
Wingspan	19.51 m	64.0 ft
Overall length	21.03 m	69.0 ft
Height	6.86 m	22.50 ft
Wing area	42.55 sq m	458.0 sq ft

Dimensions (Internal)

Main cargo area		
Length	7.01 m	23.0 ft
Width	2.54 m	8.33 ft
Height	2.40 m	7.88 ft
Total cargo area	56.75 cu m	2,004 cu ft

	<u>Metric</u>	<u>US</u>
Weight		
Empty weight	4,082 kg	9,000 lb
Max T-O weight	8,618 kg	19,000 lb
Performance		
Max cruise speed at 10,000 ft	363 km/h	200 kt
Range with 4,000-lb payload	2,944 km	1,590 nm
T-O distance to 50 ft	465 m	1,525 ft
Landing distance from 50 ft	532 m	1,745 ft

Propulsion

LM200 (2) LHTEC CTP800-4T linked turboshaft engines with a Westland combining gearbox and a Hamilton Sundstrand 568F-11 six-bladed propeller. The propulsion system is flat-rated to 1,790 kW (2,400 shp).

Variants/Upgrades

The LM200 was marketed in five configurations, including a freighter for bulk and containerized cargo; a 19-passenger regional aircraft; a high-density, 34-passenger version; a 28-passenger troop/jump configuration; and a reconnaissance configuration. Ayres had also planned to eventually market a firebomber configuration.

LM250. In 1997, Ayres announced a military utility version of the LM200, with a rear loading ramp, called the LM250. This version would be powered by a

CTP800-50 powerplant rated at 2,386 kW (3,200 shp). Maximum take-off weight would be 11,339 kilograms (25,000 pounds), and maximum payload would be 5,760 kilograms (12,700 pounds). Range with maximum payload and fuel reserves would be 2,592 kilometers (1,400 nautical miles). The LM250 was priced at approximately \$5.0 million.

Ayres wanted to have orders for 10 LM250s before proceeding with the program.

Program Review

Background. The concept for the Loadmaster 200 (LM200) dates back to about 1993, when small package carrier FedEx approached Ayres Corp with an idea for an aircraft to fill a niche between its Fokker F.27 and Cessna Caravan fleets. FedEx later became the launch customer for the LM200.

The original plan involved a single-engine aircraft with a maximum gross take-off weight of over 5,670 kilograms (12,500 pounds). The concept underwent a number of changes before emerging as the present LM200 design.

The latest LM200 design has a maximum gross take-off weight of 8,618 kilograms (19,000 pounds). It would be powered by a CTP800-4T propulsion system from the Light Helicopter Turbine Engine Company (LHTEC), a joint venture of Honeywell and Rolls-Royce. The CTP800-4T propulsion system is essentially two linked CTP800 turboshaft engines using a single shaft, a combining gearbox, and a single propeller. It is rated at 2,013 kW (2,700 shp) but, for the LM200 application, would be flat-rated to 1,790 kW (2,400 shp). A six-bladed propeller from Hamilton Sundstrand would be used. The gearbox was designed by Westland.

The CTP800-4T propulsion system is similar to the Soloy PT6 Dual Pac, which had been envisioned as the powerplant for an earlier design of the Loadmaster.

The LM200's core avionics system would be the Honeywell SPZ-5000 integrated avionics system.

The maximum payload of the LM200 is 3,992 kilograms (8,800 pounds). The aircraft features a 1.9 x 2.1 meter (6.2 x 6.9 foot) main cargo door. Range of the LM200 with a 1,814-kilogram (4,000-pound) payload is estimated at 1,590 nautical miles.

The LM200 was designed for single-pilot operation. Engine/airframe anti-icing and de-icing systems would be standard. The aircraft was to be approved for flight into known icing conditions.

A one-twelfth scale model of the LM200 exists, and has completed at least 50 hours of wind tunnel testing at Wichita State University in Kansas.

The present LM200 design does not incorporate pressurization. Ayres was also planning a design with a pressurized cockpit section. Ayres had said that a number of potential customers had expressed interest in a pressurized version of the LM200.

In November 1996, FedEx signed a letter of intent for 50 LM200s and options for an additional 200 aircraft. In February 1997, Ayres Corp's then-CEO, Fred Ayres, announced that FedEx had converted the letter of intent, placing orders for 50 LM200s and taking 200 options. In May 1999, FedEx converted 25 of its options on LM200s into orders. In late 1999, FedEx took options on an additional 100 LM200s, giving it a total of 275 options.

LM200s were to be assembled at an Ayres facility in Dothan, Alabama. At one time, plans had called for them also to be assembled at Ayres' subsidiary LET in the Czech Republic, but Ayres lost control of the adjunct facility after LET was declared bankrupt in October 2000.

Each of the two assembly lines was to produce approximately four aircraft per month, for an overall annual production rate of about 100 LM200s.

Plans had called for fuselages for LM200s assembled in the US to be produced in Dothan, while those for LM200s assembled in the Czech Republic were to be produced by LET. The wings and the empennages for all LM200s were to be produced by LET.

In December 2000, an interim agreement was reached allowing LET to resume engineering work on the LM200.

Ayres Corp Bankruptcy. Ayres Corp filed for Chapter 11 bankruptcy in November 2000. The company then began operating with the help of debtor-in-possession financing from GATX Capital, its largest creditor.

As of the spring of 2001, Ayres needed an estimated \$70-\$80 million to fund the LM200 program through certification. The company attempted to raise at least \$40 million in new equity. Ayres also planned to borrow a further \$30-\$40 million.

In August 2001, however, GATX foreclosed on Ayres. GATX acquired Ayres' assets in return for reducing the company's debt by \$10.3 million. GATX established an entity called Quality Aerospace Inc to manage the Ayres assets. Quality Aerospace is continuing to market Ayres' Turbo Thrush series of agricultural aircraft.

The LM200 program is currently suspended. During the life of the program, the schedule had been delayed a number of times. In mid-2001, Ayres had been planning first flight of the aircraft to occur in the second quarter of 2002, with initial deliveries in early 2004.

Funding

Funding information is not available.

Recent Contracts

None

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Nov	1996	FedEx signs letter of intent for 50 LM200s and 200 options
Jan	1997	FedEx converts letter of intent, ordering 50 aircraft with 200 options
	1999	FedEx takes additional 100 options
Nov	2000	Ayres Corp enters Chapter 11 bankruptcy
Aug	2001	GATX Capital forecloses on Ayres Corp

Worldwide Distribution

Not applicable.

Forecast Rationale

Work on the LM200 is currently suspended. GATX has been attempting to sell the program. Quality Aerospace has no plans to produce the LM200.

Ultimately, the future viability of the LM200 program may rest with FedEx. The cargo carrier has been the largest customer for the aircraft. FedEx placed 75 orders for the LM200 and took options for an additional 275. However, in mid-2001, FedEx advised its shareholders that it did not anticipate receiving any aircraft from Ayres and therefore took a write-off of its deposit on the LM200 program.

FedEx has apparently since indicated that it is still willing to consider buying 75-100 LM200s. The

company planned to lease its LM200s to supplemental carriers that would operate them under contract to FedEx on routes between small communities and major airports. The LM200 would replace several types now used by FedEx supplemental carriers, including aging Fokker F.27s.

As of August 2001, LM200 orders from customers other than FedEx had totaled 27.

Due to the uncertainty surrounding the future of the LM200, no forecast is issued for production of this aircraft.

Ten-Year Outlook

No forecast is issued for the LM200.

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