

ARCHIVED REPORT

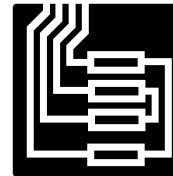
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Lockheed C-141 Starlifter – Archived 08/2002

Outlook

- Fleet phasing out, most to retire by FY03
- USAF to phase out final 63 aircraft in 2006

Note: Icons indicate area(s) of current retrofit/modernization activity



Orientation

Description. High-wing, T-tail, four-engine, long-range transport aircraft that accommodates a four-man flight crew and maximum of 154 troops.

Developer/Primary Manufacturer. Lockheed Corp, Lockheed-Georgia Co, Marietta, Georgia, USA.

Current Status. Production ended in 1968.

Total Produced. A total of 284 C-141As were produced, plus five development, test and evaluation aircraft. Of these, 270 were converted to the stretched C-141B configuration, plus one C-141A was converted into the YC-141B prototype.

Application. Long-range cargo/personnel transport.

Price Range. C-141B modification program cost over \$400 million for a total of 270 aircraft.

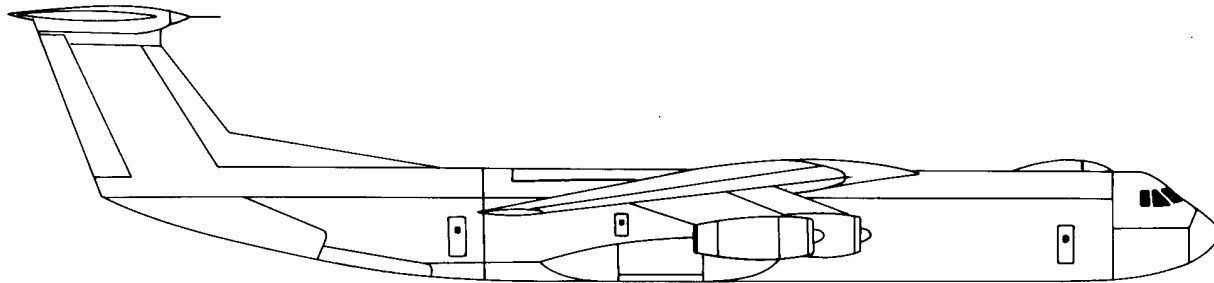
Technical Data

(C-141B)

	<u>Metric</u>	<u>US</u>
Dimensions		
Length	51.31 m	168.30 ft
Height	11.98 m	39.30 ft
Wingspan	48.78 m	160.0 ft
Weight		
Operating weight	65,541 kg	144,492 lb
Max payload (2.5 g)	33,672 kg	74,233 lb
Max payload (2.25 g)	42,869 kg	94,508 lb
Max T-O gross wt (2.5 g)	146,557 kg	323,100 lb
Max T-O gross wt (2.25 g)	155,584 kg	343,000 lb

	<u>Metric</u>	<u>US</u>
Performance		
High-speed cruise speed	Mach 0.767	
Long-range cruise speed	Mach 0.74	
Range ^(a)	4,639 km	2,501 nm

Propulsion
Four Pratt & Whitney TF33-P-7 turbofans



Thrust (each)	93.4 kN	21,000 lbst
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^(a)With 42,869 kg (94,508 lb) payload

LOCKHEED C-141B

Source: Forecast International

Program Review

Background. In March 1961, Lockheed-Georgia was announced the winner of a design competition for a turbofan-powered cargo and personnel transport for use by the Military Airlift Command (MAC). Other competing firms were Boeing, Douglas and General Dynamics' Convair Division. After initially contracting for five development, test and evaluation aircraft, the US Air Force ordered a total of 284 production aircraft under the designation C-141A. The last C-141A was delivered in February 1968. Lockheed at one time had plans to produce commercial versions of the Starlifter, but these were subsequently abandoned.

Operational experience with the C-141A showed that, on many occasions, flights were conducted at maximum

volume capacity without reaching the maximum payload capacity of the aircraft. Studies by Lockheed revealed that a 711.2 centimeter (280 in) stretch of the fuselage produced an optimum relationship between modification cost and payload improvement. In addition, the change allowed retention of the aircraft's existing wing, landing gear and engines. The increased length of the cargo compartment accommodated 13 463L pallets as opposed to 10 in the C-141A. The C-141B conversion also included the addition of aerial refueling capability. One C-141A was converted into the YC-141B prototype in 1976-1977. A total of 270 C-141As were converted to the production C-141B configuration.

Variants

C-141A. Only production version. Total of 284 delivered from 1965-1968. In addition, five development, test and evaluation aircraft were procured. Powered by Pratt & Whitney TF33-P-7 engines. Fitted with all-weather landing system (AWLS) that proved Category II+ capability by meeting US Federal Aviation Administration (FAA) Category II minimum require-

ments and by also having the capability to automatically control the aircraft to touch down in VFR conditions.

C-141B. Stretched modification of C-141A. One C-141A converted to YC-141B prototype in 1976-1977. Total of 270 C-141As were converted to the production C-141B configuration from 1979-1982. Fuselage in-

creased by 711.2 centimeters (280 in.) through insertion of two plugs. This modification increased the floor area of the cargo compartment by 22.30 square meters (240

sq ft) and its volume by 61.48 cubic meters (2,171 cu ft). Also included in the modification was the addition of aerial refueling capability.

Funding

US FUNDING

	FY00		FY01		FY02		FY03 (Req)	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
C-141 Mods		\$10.8		0.7		0.8		0.8

All \$ are in millions.

Milestones

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Mar	1961	Lockheed-Georgia declared winner of MAC transport design competition
Dec	1963	First flight of C-141A
Apr	1965	Initial delivery of C-141A to USAF
Feb	1968	Final C-141A delivered
	1976	Lockheed begins C-141B work under USAF contract
Jan	1977	YC-141B prototype rolled out
Mar	1977	First flight of YC-141B
Dec	1979	First production C-141B delivered to USAF
Jun	1982	Final C-141B delivered
	2006	Planned retirement to be completed

Worldwide Distribution

(As of May 1, 2002)

<u>Country</u>	<u>Operator</u>	<u>Total</u>	<u>Variant</u>	<u>Avg. Age (Yrs)</u>
United States	USAF	188 (129 in active USAF)	C-141B	34

Opportunities

No additional C-141 Modification funding is planned beyond FY03. These aircraft are being retired and current plans call for the final 63 C-141s to serve in the 2003-06 time frame. No further upgrades are anticipated for the C-141.

ELECTRONICS

NAVSTAR GPS. The NAVSTAR Global Positioning System (GPS) is a space-based radio navigation system designed to provide all-weather, highly accurate three-dimensional position, velocity and time on a worldwide basis. Full-rate production of user equipment began in

FY90. NAVSTAR GPS is being installed aboard 63 US Air Force C-141Bs.

The Air Force's original plans were for the retrofit of 96 C-141s at an estimated cost of \$96.1 million; the scope of this effort was subsequently reduced to 63 aircraft and \$68.7 million. The first aircraft was redelivered to the USAF in mid-1998, and the project was completed in the third quarter of 2001. Accordingly, this program is no longer included in our Opportunity Outlook.

FI's Opportunity Outlook

Program	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
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ELECTRONICS

NAVSTAR GPS

In Progress +=> 63 C-141B

Program	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
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