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United States General Accounting Office  
Washington, DC 20548

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B-286562

March 16, 2001

The Honorable Curt Weldon  
Chairman, Subcommittee on Readiness  
Committee on Armed Services  
House of Representatives

Subject: Military Readiness: Updated Readiness Status of U. S. Air Transport Capability

Dear Mr. Chairman:

This letter conveys updated information on the readiness status of U.S. airlift and aerial refueling aircraft similar to that provided in our June 2000 report entitled Military Readiness: Air Transport Capability Falls Short of Requirements. Your office asked us to provide this data because of your ongoing concern that U.S. mobility capabilities may be inadequate to quickly transport the military forces and supplies necessary to execute the National Military Strategy of fighting and winning two nearly simultaneous major theater wars. Specifically, we are providing the following:

charts showing fiscal years 1997-2000 mission capable data for C-5s, C-141s, C-17s, KC-10s and KC-135s compared to the U.S. Air Force Air Mobility Command's standards,

tables showing the fiscal year 2000 average mission capable rates, the resulting shortfalls in airlift and aerial refueling capability at the onset of war based on the aircraft performing at these rates, and Office of the Secretary of Defense information relating to wartime surge capability, and

charts showing the C-5, KC-10 and KC-135 not mission capable for supply and cannibalization rates for fiscal years 1997-2000.

We briefed your office on this data on January 25, 2001. As we agreed at that time, GAO will continue to evaluate the Mobility Requirements Study 2005. If you have questions, please contact me on (757) 552-8111 or my Assistant Director, Mr. William Meredith, on (202) 512-4275.

Sincerely yours,

A handwritten signature in black ink that reads "Neal P. Curtin". The signature is written in a cursive style with a long horizontal stroke extending from the end of the name.

Neal P. Curtin  
Director, Defense Capabilities and Management

Enclosure



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# Updated Readiness Status of U. S. Air Transport Capability

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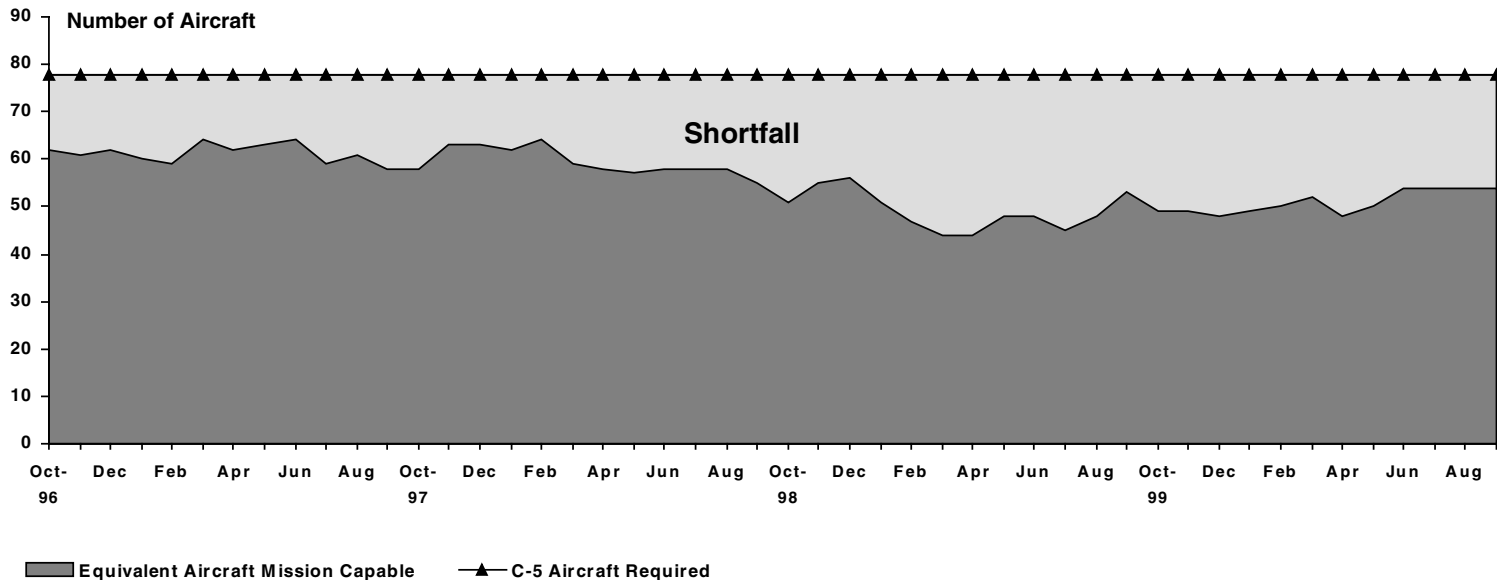
## Three Measures of Air Transport Capability

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- **Number of aircraft required for wartime** - the number of aircraft which are required to meet wartime missions.
- **Number of aircraft mission capable in peacetime** - the number of mission authorized aircraft that were fully or partially mission capable based on monthly fleet-wide Air Mobility Command Health of Force data.
- **Projected military wartime surge capability** - the million-ton miles per day (MTM/D) DOD estimates it has to meet military wartime objectives in the first 45 days of the most demanding wartime operations. Wartime surge is predicated on:
  - full activation of the Air Reserve Component crews and maintenance,
  - temporary deferral of scheduled maintenance activity,
  - accelerating the return of aircraft in depot status to operational status,
  - using unit training aircraft for operational missions, and
  - only grounding aircraft that are not-mission capable for items on the minimum equipment list.



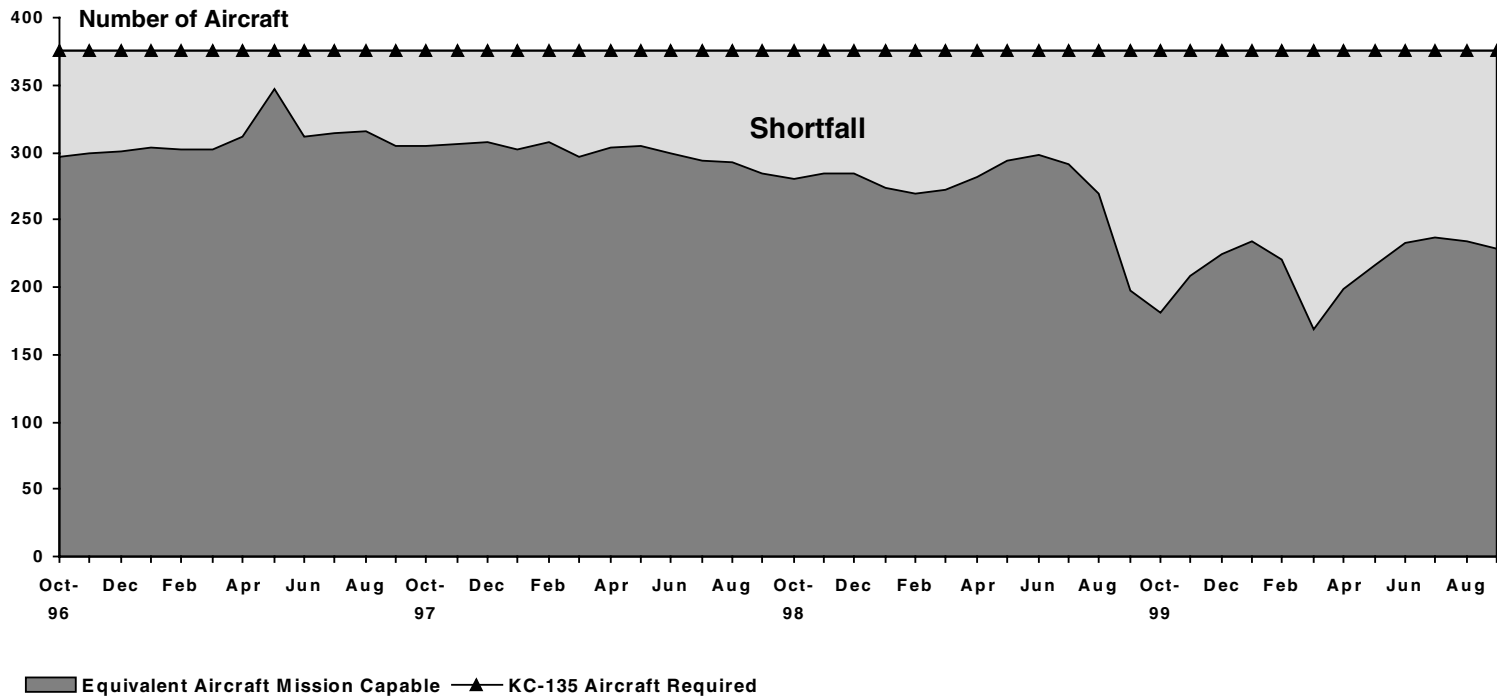
## C-5 Aircraft Required and Peacetime Mission Capable, Fiscal Years 1997-2000



Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.



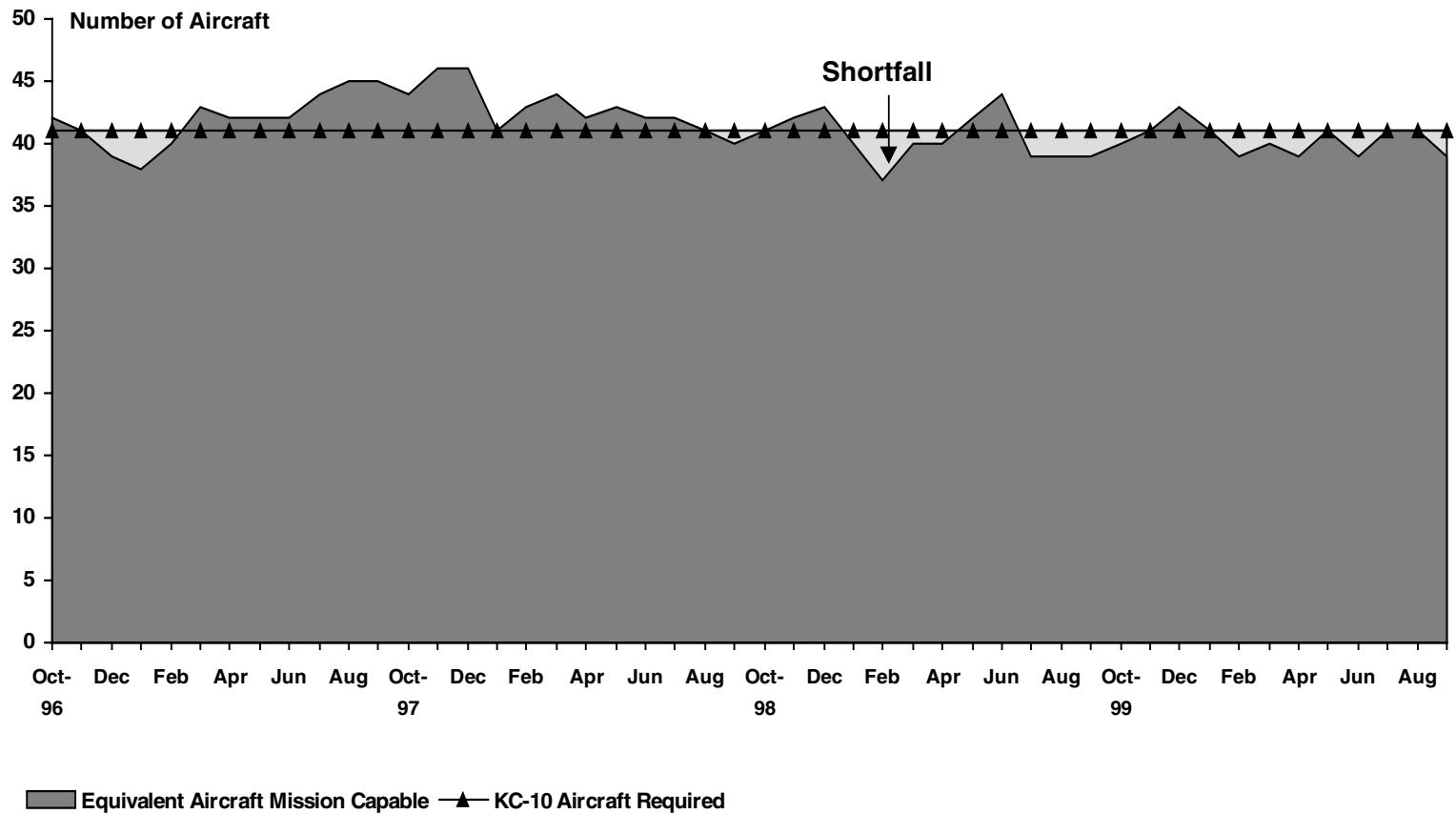
### C-135 Aircraft Required and Peacetime Mission Capable, Fiscal Years 1997-2000



Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.



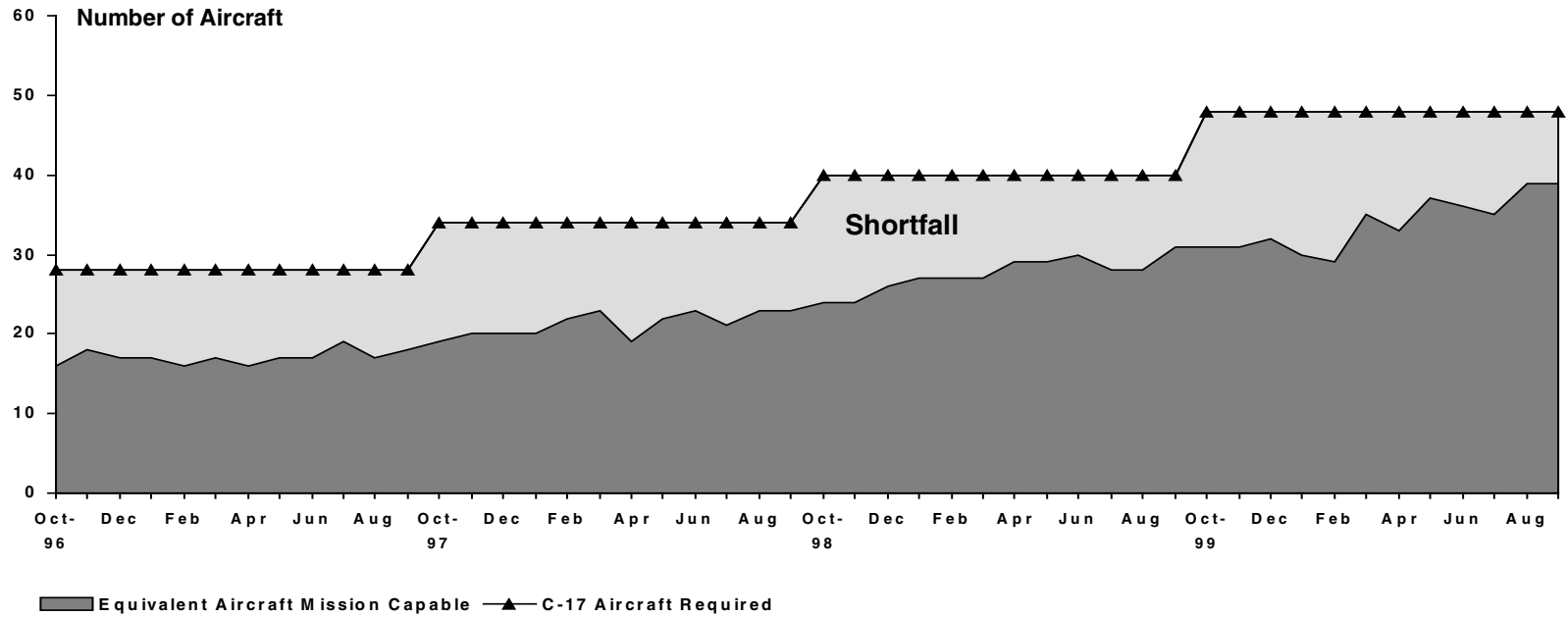
### KC-10 Aircraft Required and Peacetime Mission Capable, Fiscal Years 1997-2000



Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.



### C-17 Aircraft Required and Peacetime Mission Capable, Fiscal Years 1997-2000

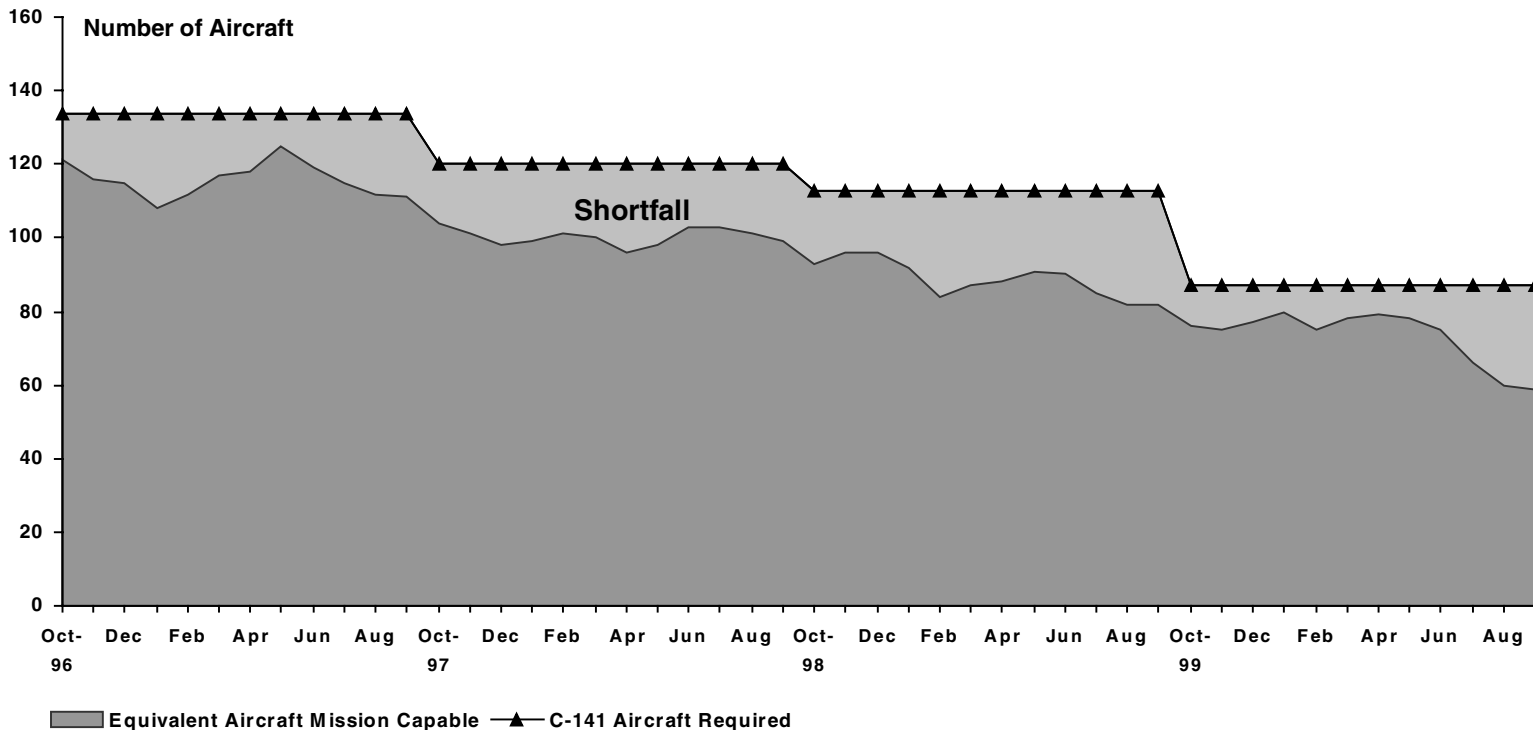


Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.





## C-141 Aircraft Required and Peacetime Mission Capable, Fiscal Years 1997-2000



Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.



## Air Mobility Command Airlift and Aerial Refueling Aircraft Mission Capable Rates

Aircraft type	Mission capable rates (percent)		
	Air Mobility Command standard wartime rates	FY 1997- 99 Average <sup>a</sup> peacetime rates	FY 2000 Average peacetime rates
C-5	75	55	53
C-17	87.5	66	63
C-141	80	61	68
KC-135	85	67 <sup>b</sup>	49 <sup>b</sup>
KC-10	85	88	83

<sup>a</sup> Average mission capable rates for the C-5, KC-135, and KC-10 were based on rates for fiscal years 1997 – 99. Average mission capable rates for the C-141 and C-17 were based on fourth quarter fiscal year 1999 data because these aircraft are in transition. These rates were computed by dividing the number of aircraft mission capable by the total number of primary mission aircraft.

<sup>b</sup> Rate is for the 442 KC-135s assigned to the Air Mobility Command.

Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.



## Airlift and Aerial Refueling Shortfall Based on Mission Capable Rates Projected for Wartime and 1995 Requirements

Mission	Current peacetime capability <sup>a</sup>	1995 Military wartime requirement	Projected military wartime surge capability <sup>b</sup>	Military wartime capability shortfall	Percentage military wartime shortfall
C-5	9.17 MTM/D	12.98 MTM/D	9.47 MTM/D	3.51 MTM/D	12.02
KC-10	3.01 MTM/D	3.08 MTM/D	3.01 MTM/D	0.07 MTM/D	0.20
C-17	5.09 MTM/D	7.07 MTM/D	6.96 MTM/D	0.11 MTM/D	0.40
C-141	3.71 MTM/D	4.36 MTM/D	4.01 MTM/D	0.35 MTM/D	1.20
Programmed Shortfall <sup>c</sup>		1.71 MTM/D		1.71 MTM/D	5.86
<b>Total military airlift</b>	<b>20.98 MTM/D</b>	<b>29.20 MTM/D<sup>d</sup></b>	<b>23.44 MTM/D<sup>d</sup></b>	<b>5.76 MTM/D<sup>d</sup></b>	<b>19.73<sup>d</sup></b>
KC-135	232 aircraft	402 aircraft	232 aircraft <sup>e</sup>	170 aircraft	38.37
KC-10	40 aircraft	41 aircraft	40 aircraft <sup>e</sup>	1 aircraft	0.23
<b>Total refueling aircraft</b>	<b>272 aircraft</b>	<b>443 aircraft</b>	<b>272 aircraft<sup>e</sup></b>	<b>171 aircraft</b>	<b>38.60</b>
KC-135	43.1 MPF/D	74.8 MPF/D	43.1 MPF/D <sup>e</sup>	31.7 MPF/D	29.88
KC-10	30.5 MPF/D	31.3 MPF/D	30.5 MPF/D <sup>e</sup>	0.7 MPF/D	0.69
<b>Total refueling capacity</b>	<b>73.7 MPF/D<sup>d</sup></b>	<b>106.1 MPF/D</b>	<b>73.7 MPF/D<sup>d,e</sup></b>	<b>32.4 MPF/D</b>	<b>30.57</b>

<sup>a</sup>Based on fiscal year 2000 average mission capable rates.

<sup>b</sup>Estimates provided by the Office of the Secretary of Defense, Program Analysis and Evaluation based on February 8, 2001 mission capable rates projected for wartime.

<sup>c</sup>The amount expected to be short during the transition between C-141 and C-17 aircraft.

<sup>d</sup>Totals may not add due to rounding.

<sup>e</sup>OSD did not provide projected wartime capability estimates for refueling aircraft.

Million-ton miles per day (MTM/D)

Million pounds of fuel per day (MPF/D)

Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.



**Airlift Shortfall Based on Projected Wartime Surge Capability  
Compared to 1995 and 2005 Mobility Requirements**

	1995 Airlift	2005 Airlift
Total wartime requirement	49.7 MTM/D <sup>a</sup>	51.1–54.5 MTM/D <sup>b</sup>
Military wartime requirement <sup>c</sup>	29.2 MTM/D	30.6–34.0 MTM/D
Projected military wartime surge capability	23.44 MTM/D	23.44 MTM/D
Military wartime capability shortfall	5.76 MTM/D	7.16–10.56 MTM/D
<b>Percentage military wartime shortfall</b>	<b>19.73</b>	<b>23.40–31.06</b>

<sup>a</sup> The 1995 Mobility Requirements Study Bottom Up Review Update cites this airlift requirement.

<sup>b</sup> Mobility Requirements Study 2005 identifies this range of airlift requirements depending on the scenario.

<sup>c</sup> Both studies cite that 20.5 MTM/D will be provided by the civilian fleet. The remaining portion of the requirement is expected to be provided by the military.

Source: Wartime surge data provided by the Office of the Secretary of Defense. GAO Analysis of U.S. Air Force, Air Mobility Command Data.



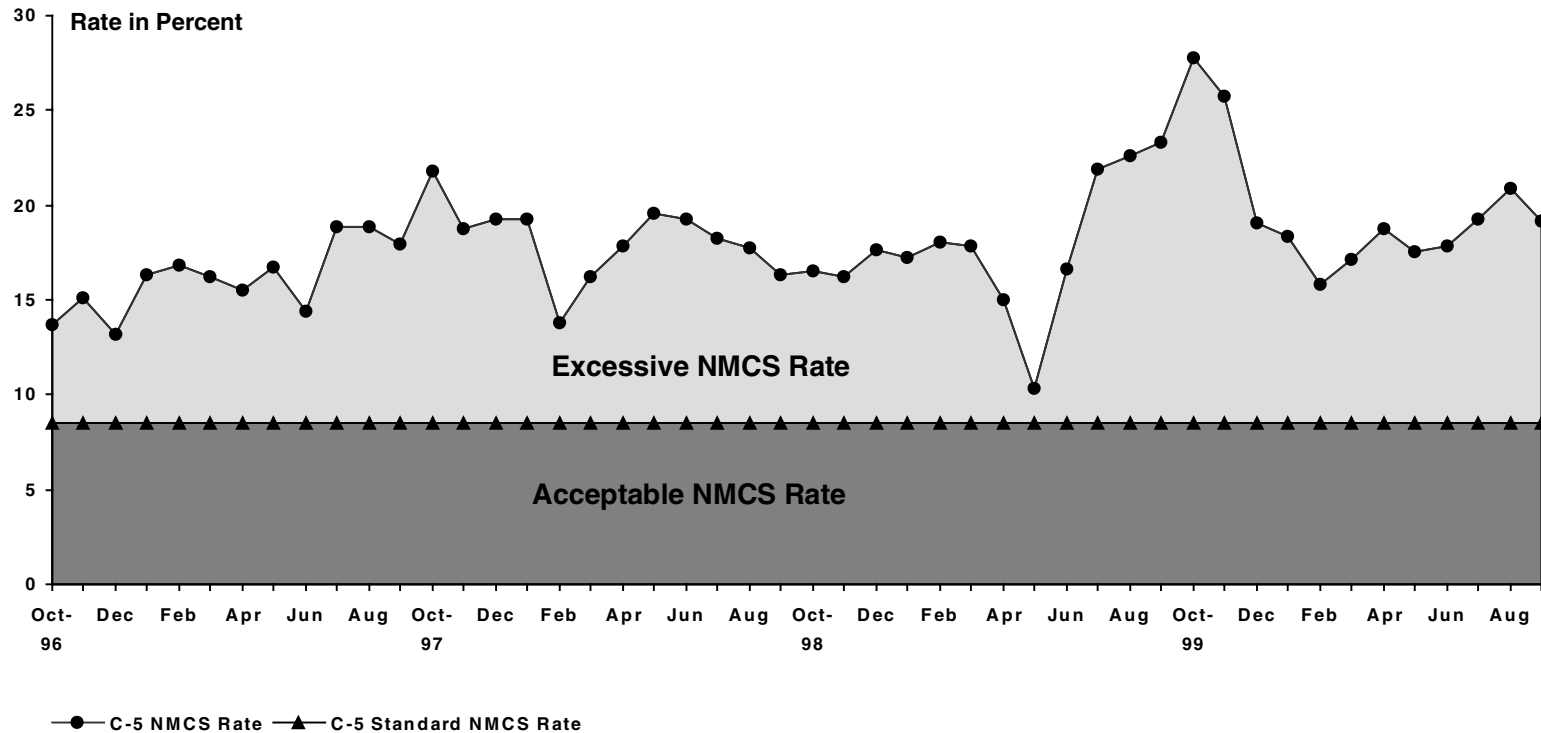
## Two Indicators of Parts Availability

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- **Not Mission Capable Supply Rate (NMCS)** - the percent of possessed hours that aircraft were not mission capable for supply based on monthly fleet-wide Air Mobility Command Health of Force data.
- **Cannibalization Rate** - the average number of serviceable parts removals per 100 sorties based on monthly fleet-wide Air Mobility Command Health of Force data.



### C-5 NMCS Rate Compared to the Air Mobility Command Standard for Fiscal Years 1997-2000

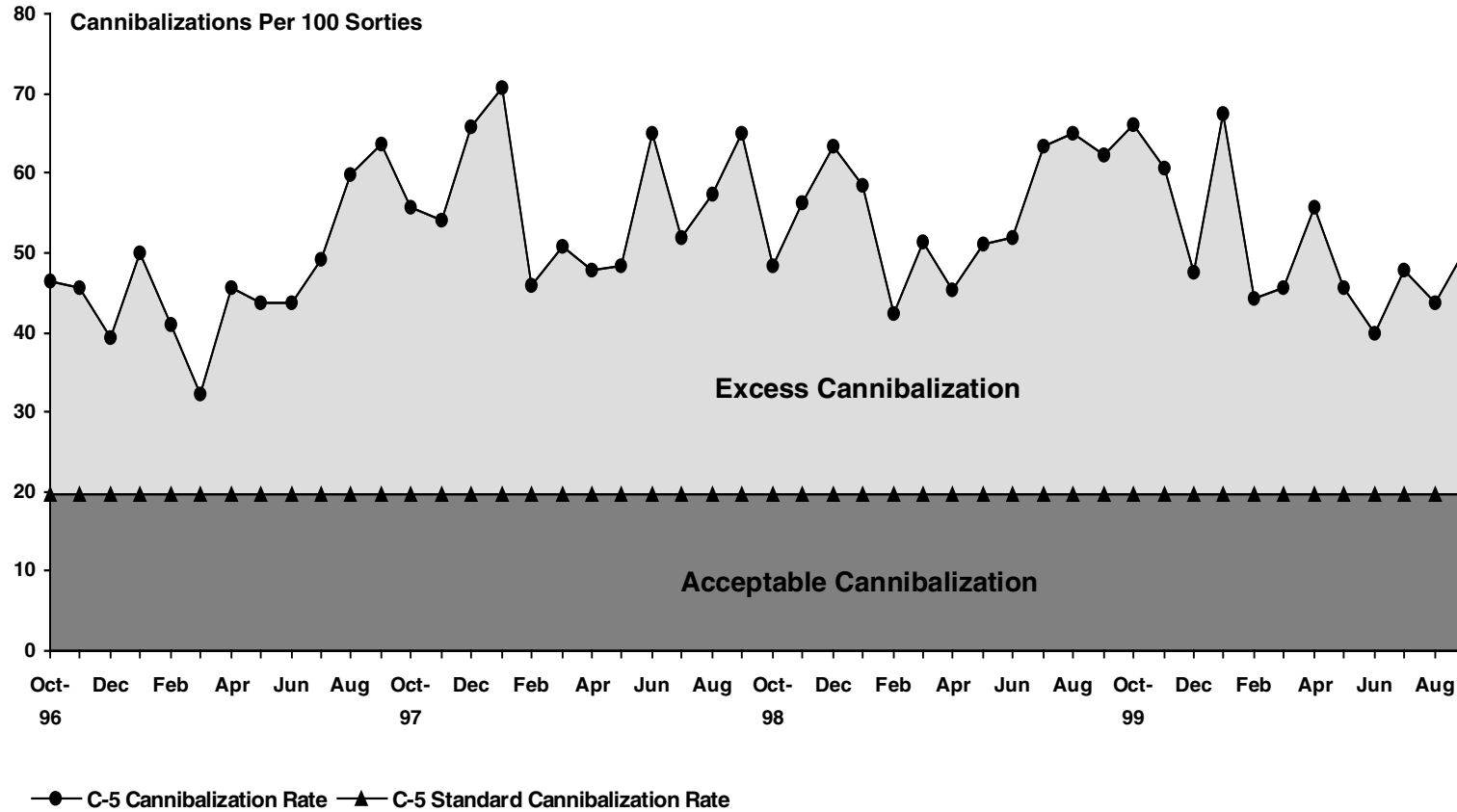


Not Mission Capable for Supply (NMCS)

Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.



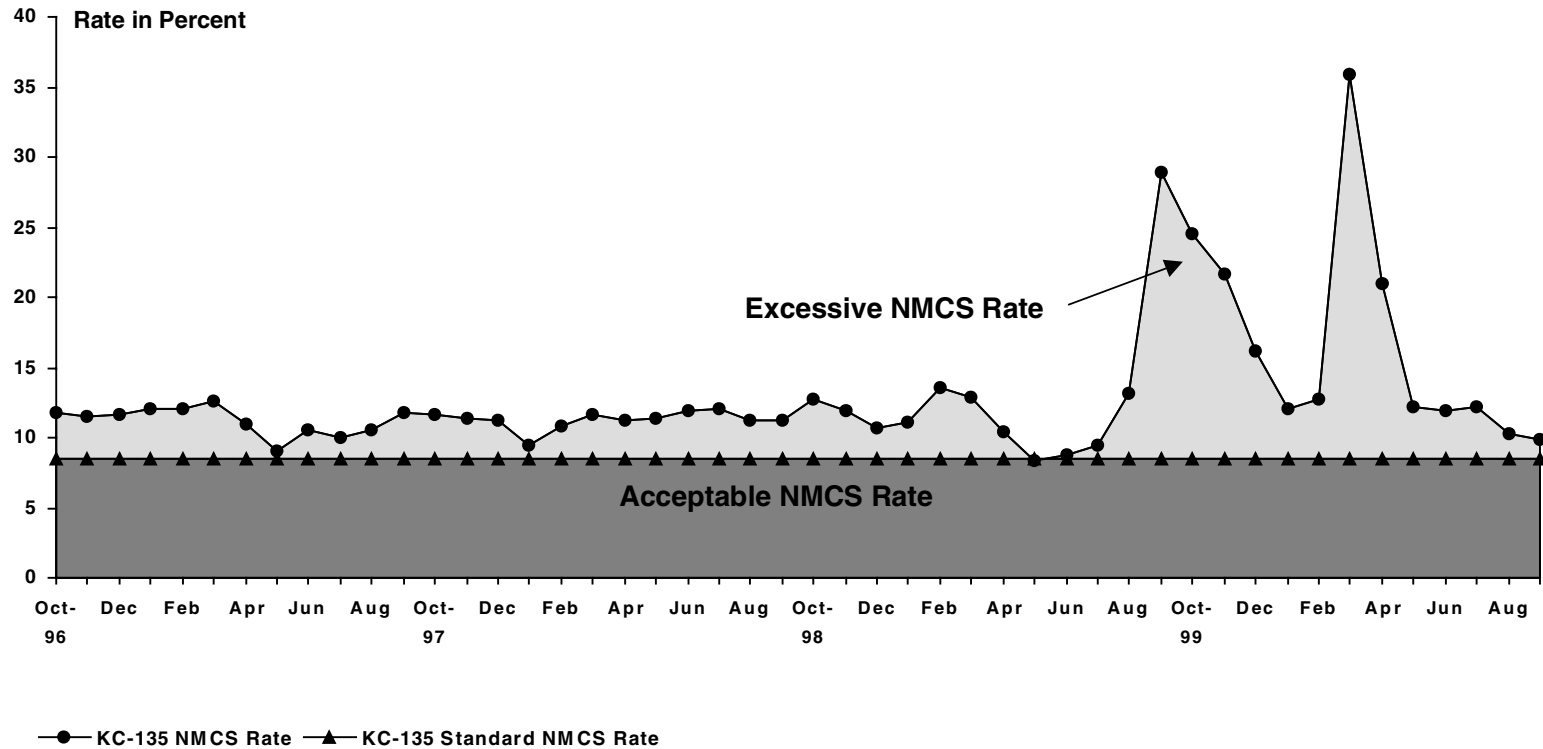
### C-5 Cannibalizations Per 100 Sorties Compared to the Air Mobility Command Standard for Fiscal Years 1997- 2000



Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.



## KC-135 NMCS Rate Compared to the Air Mobility Command Standard for Fiscal Years 1997-2000



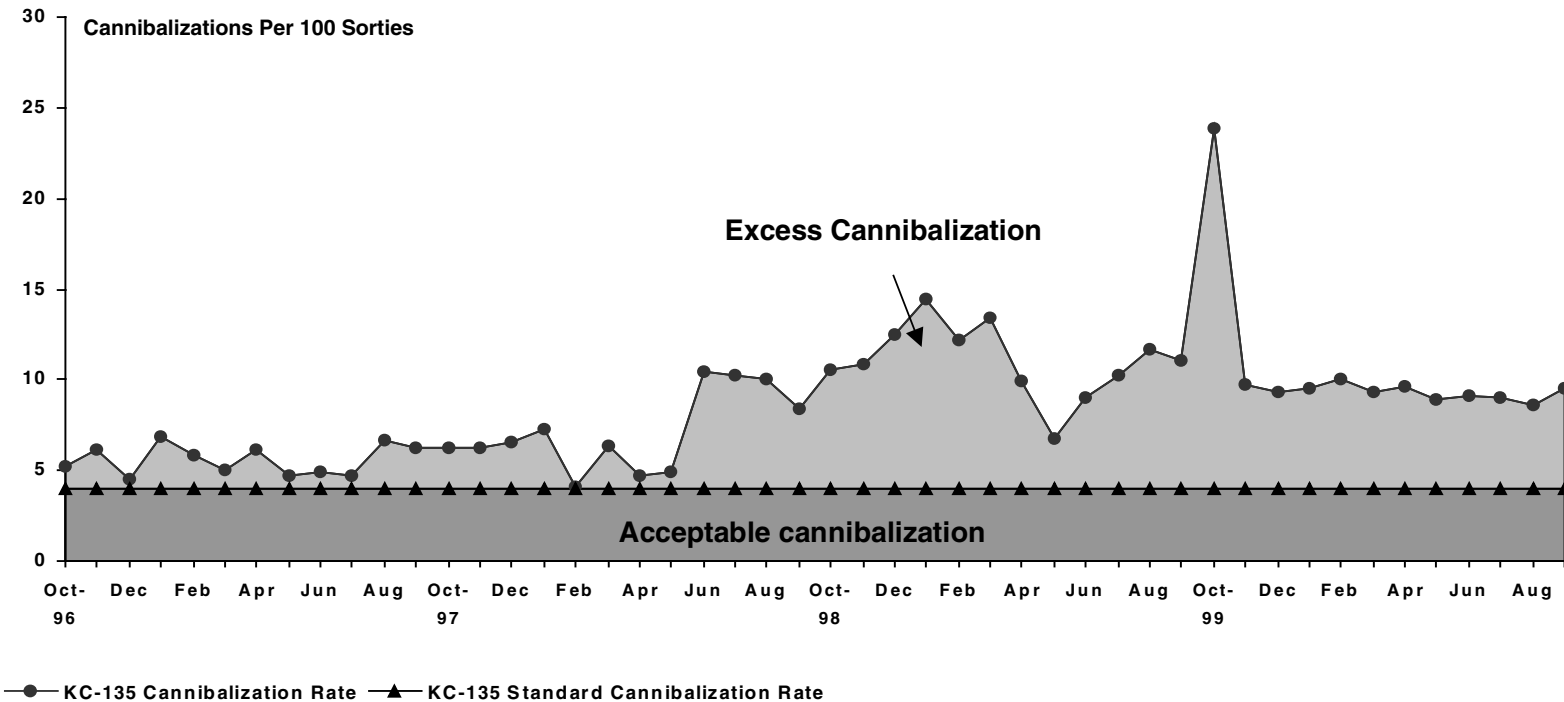
Not Mission Capable for Supply (NMCS)

Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.





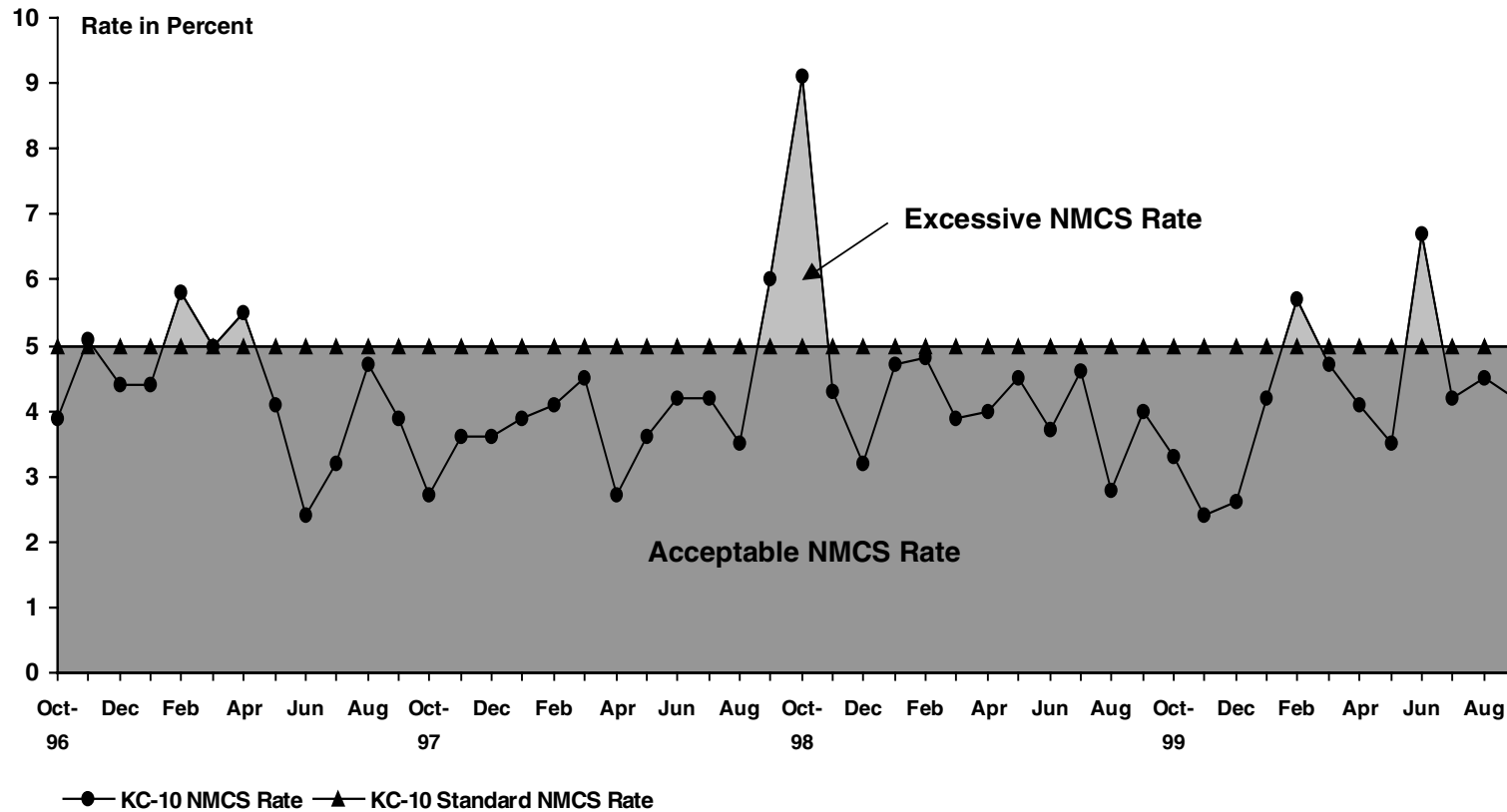
### KC-135 Cannibalizations Per 100 Sorties Compared to the Air Mobility Command Standard for Fiscal Years 1997-2000



Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.



## KC-10 NMCS Rate Compared to the Air Mobility Command Standard for Fiscal Years 1997-2000

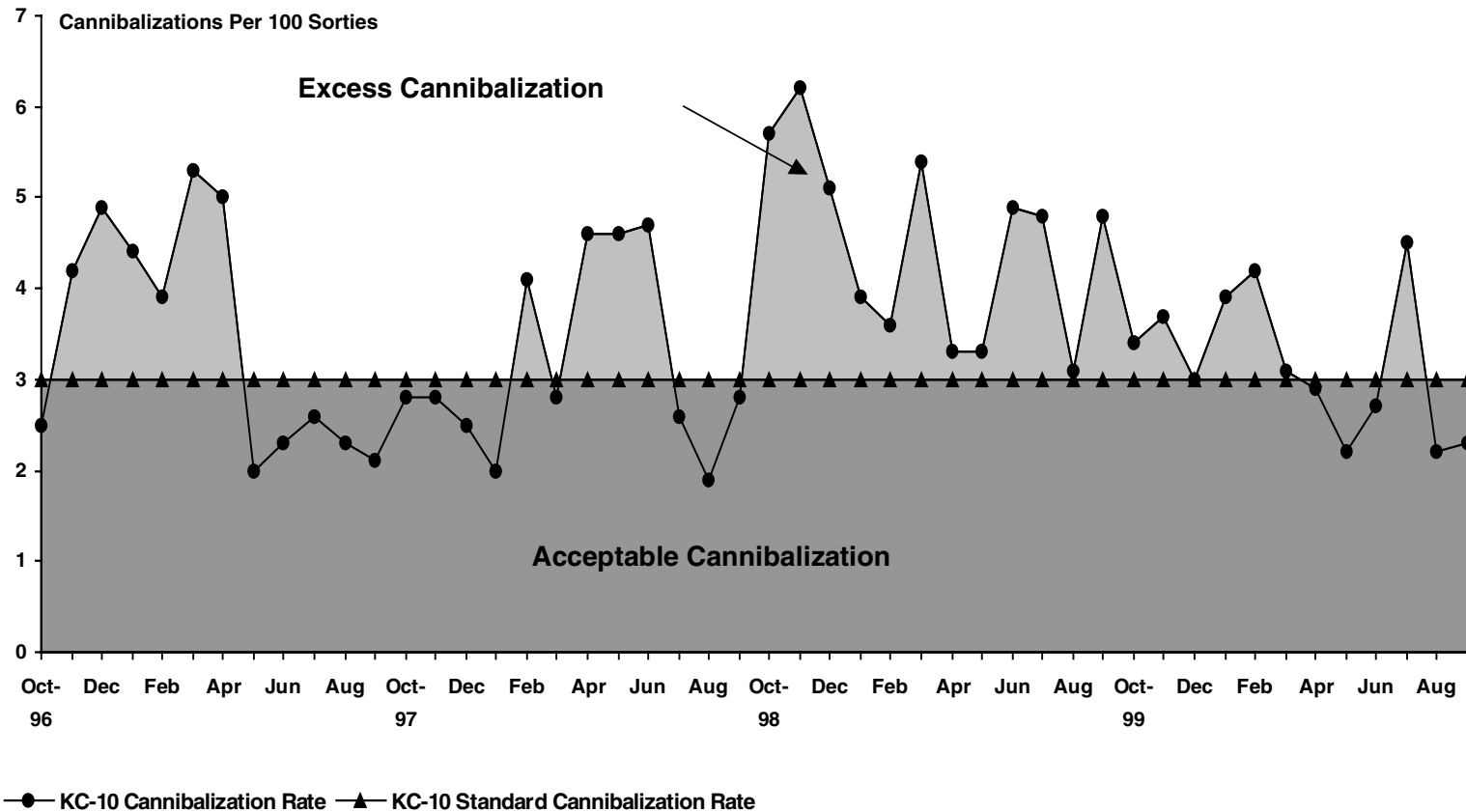


Not Mission Capable for Supply (NMCS)

Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.



### KC-10 Cannibalizations Per 100 Sorties Compared to the Air Mobility Command Standard for Fiscal Years 1997-2000



Source: GAO Analysis of U.S. Air Force, Air Mobility Command data.