All too often, the armed forces must borrow parts from one airplane to fix another one.

Cannibalization

The Pentagon defines "cannibalization" as removing serviceable parts from one piece of equipment and installing them in another to make repairs otherwise unattainable. As the General Accounting Office points out in a recent report, it has again become a popular maintenance practice.
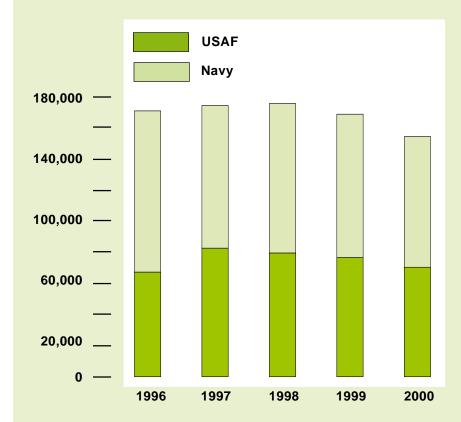
All military services rely on cannibalization extensively, so much so that it has become routine, reports GAO. In the five-year period 1996–2000, USAF and the Navy made roughly 850,000 *reported* cannibalizations, requiring 5.3 million additional maintenance hours. These figures are no doubt understated.

GAO said cannibalization increases maintenance costs by increasing mechanics' workloads. This, it is said, affects troop morale and takes aircraft out of service for long periods. It also can create new mechanical problems.

In the broadest sense, cannibalizations are done because of pressures to meet readiness and operational needs and because of shortcomings in the supply system. In some cases, inexperience is the culprit: Parts are swapped from one aircraft to another until the problem is solved, said GAO.

DOD acknowledged that cannibalization is a serious issue and has initiated an in-depth assessment of cannibalization processes, including data collection and reporting procedures.
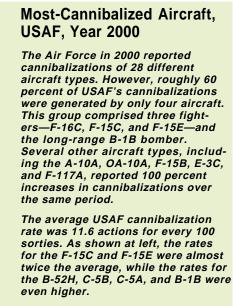
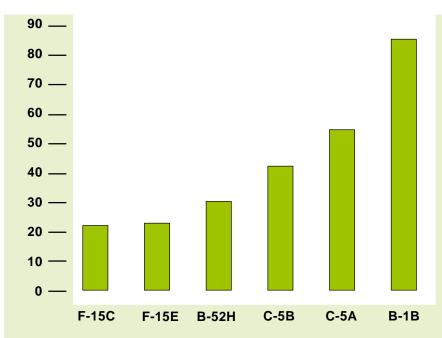## Total USAF and Navy Cannibalizations 1996–2000

In 1996–2000, Air Force and Navy units reported a total of about 850,000 cannibalizations and reported annual figures ranging between 154,000 and 176,000. The numbers have remained relatively stable for several years, dropping slightly in 2000, when the two services reported 154,000 cannibalizations.

During the five-year period, the Navy reported a higher number—approximately 468,000 cannibalizations, or on average, about 94,000 a year. Actual number of cannibalizations may be much higher—perhaps twice as high. The Air Force reported fewer, about 376,000 cannibalizations, or on average, about 75,000 a year. As with the Navy, these numbers may also be low.

Source: Air Force and Navy data.

Legend: USAF, Navy. Y-axis: 0, 20,000, 60,000, 100,000, 140,000, 180,000. X-axis: 1996, 1997, 1998, 1999, 2000.

Most-Cannibalized Aircraft, USAF, Year 2000

Chart (vertical bar chart, y-axis 0 to 90):

Aircraft	Value
F-15C	22
F-15E	23
B-52H	30
C-5B	42
C-5A	55
B-1B	85

The Air Force in 2000 reported cannibalizations of 28 different aircraft types. However, roughly 60 percent of USAF's cannibalizations were generated by only four aircraft. This group comprised three fight-ers—F-16C, F-15C, and F-15E—and the long-range B-1B bomber. Several other aircraft types, includ-ing the A-10A, OA-10A, F-15B, E-3C, and F-117A, reported 100 percent increases in cannibalizations over the same period.

The average USAF cannibalization rate was 11.6 actions for every 100 sorties. As shown at left, the rates for the F-15C and F-15E were almost twice the average, while the rates for the B-52H, C-5B, C-5A, and B-1B were even higher.

Source: Air Force data.

The B-1B bomber is one of four aircraft that required a large share of the cannibalizations reported by the Air Force in 2000.

Most-Cannibalized Aircraft, Navy, Year 2000

Chart (vertical bar chart, y-axis 0 to 35):

Aircraft	Value
E-2C	16
EA-6B	16.5
S-3B	18
F/A-18E	21.5
F/A-18B	27.5
F-14D	32.5

In 2000, the Navy reported six types of aircraft—E-2C, EA-6B, S-3B, F/A-18E, F/A-18B, and F-14D—had almost twice or more than twice the Navy's average rate of 8.8 cannibalizations per 100 flying hours. The Navy has only a small number of the three types that were most-cannibalized. In fleet terms, the Navy reported cannibalizations on 63 aircraft types in Fiscal 2000. Of these, five types—E-2C, EA-6B, S-3B, F/A-18C, and P-3C—accounted for about 42 percent of the total, yet they represented only 26 percent of the total inventory for which cannibalizations were reported.
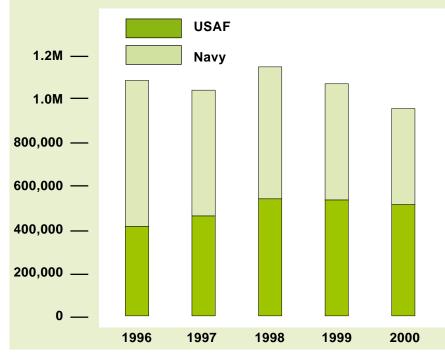
Source: Navy data.

These and other USAF maintenance personnel bear the brunt of the cannibalization problem.

Maintainers routinely work long, hard hours to patch aircraft to meet the day's sortie schedule—providing an illusion of readiness.

Cannibalization Personnel Hours, 1996–2000

Since year 1996, the Navy and the Air Force have reported spending about 5.3 million maintenance hours on cannibalizations—the equivalent of more than 500 aviation maintenance personnel working full time for five years. Aircraft with the highest number of cannibalizations also accounted for a large share of maintenance hours spent on cannibalizations. For example, the Navy's E-2C, EA-6B, S-3B, F/A-18A, F/A-18C, and P-3C consumed 45 percent of the total reported cannibalization hours in year 2000.

Source: Navy and Air Force data.

USAF

Navy

1.2M —

1.0M —

800,000 —

600,000 —

400,000 —

200,000 —

0 —

1996   1997   1998   1999   2000