

CH-47 INFORMATION

Basic Weight	17300 lbs
Oil 3.7 Gal	28 lbs
Crew 4 (200)	800 lbs
Operating Weight	18128 lbs

Maximum T/O Gross Weight	33000 lbs
Fuel 630 Gals (full)	4095 lbs

Maximum T/O Gross Weight	33000 lbs
A/C Weight Including Full Fuel	22223 lbs
Allowable cargo load with full fuel	10777 lbs

RADIUS OF ACTION (NO WIND)

Based on T/O weight of 33,000 lbs. Figure on burning 200 lbs of fuel on run-up.

25 Nautical Miles - Fuel 1839 lbs, Cargo 13033 or 32 Combat Troops. Flight time 30 minutes.

50 Nautical Miles - Fuel 2680 lbs, Cargo 12192 or 32 Combat Troops. Flight time 1 + 00 hours.

/// 100 Nautical Miles - Fuel 4095, Cargo 10777 or 32 Combat Troops. Flight time 2 + 00.

COMPANY SIZE EFFORT

Utilizing 70% of authorized A/C or 11 A/C.

25 Nautical Miles - 352 Combat Troops or 143, 363 lbs cargo.

50 Nautical Miles - 352 Combat Troops or 134,112 lbs cargo.

100 Nautical Miles - 352 Combat Troops or 118,547 lbs cargo.

EXTERNAL LOADS

Maximum allowable load 14,000 lbs.

(This would give you 20% total fuel remaining or approximately 30 minutes flight time)
Cargo sling capacity 16,000 lbs. (Design)

From Lorenz for Silvers
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SUMMARY

The CH-47A, as presently delivered (33,000 lbs max gross weight), is capable of self deployment over a distance of 850 nm nonstop by use of the 2,000 gallons Air-Log pillow tank installed in an aircraft adapted for fuel transfer into integral fuel tanks.

It is felt that by detailed stripping of non-essential aircraft equipment, and by flying at higher altitudes and with favorable winds, a range of 1000 nm or better could be achieved with the present configuration.

SPECIFIC NOTES

The aircraft handles well at gross weight with 1500 gallons in the pillow tank. The load rides securely at all normal flight altitudes.

Electric fuel transfer pump transferred at design rate of 30 gpm; however, difficulty was encountered with continuous light seepage at both the pump base and at the point the pump is connected to the Air-Log bladder. Also, fuel was transferred unequally into the main tanks, with the left tank receiving more transferred fuel than the right.

Vapor eliminator hose connections leaked at several points. This was remedied in most cases by wrapping and tightening safety wire around the connections. Some problems were encountered initially by trapped air not being eliminated and the shallow pump base not touching fuel.

The co-pilot emergency door jetisoned, inexplicably, shortly after take off, which should have increased aircraft drag qualities.

FUEL

Aircraft gross weight at launch (33,000 lbs) included 3984 lbs (613 gals) in integral tanks, and 9600 lbs (1475 gals) in pillow tank, for a total fuel load of 13,584 lbs or 2088 gallons. Fuel consumed was 2850 lbs (438 gals) from integral tanks and 9600 lbs (1475) from the pillow tank. Average rate of consumption for the flight was 1860 lbs/hr.

WEIGHT AND BALANCE

The crew of 5 included pilot, co-pilot, relief pilot, flight engineer, and crew chief. Basic weight and moment of the aircraft was 17495/60858 empty, and 33,000/105200 at take off fully loaded. Take off CG was 318 (allowable 314-337), landing CG 325, (allowable 301-349).

Stripped items included troop seats #2 thru #31, plus cargo hook, track beam, and winch accessories. Total removed weight and moment was 216/697,