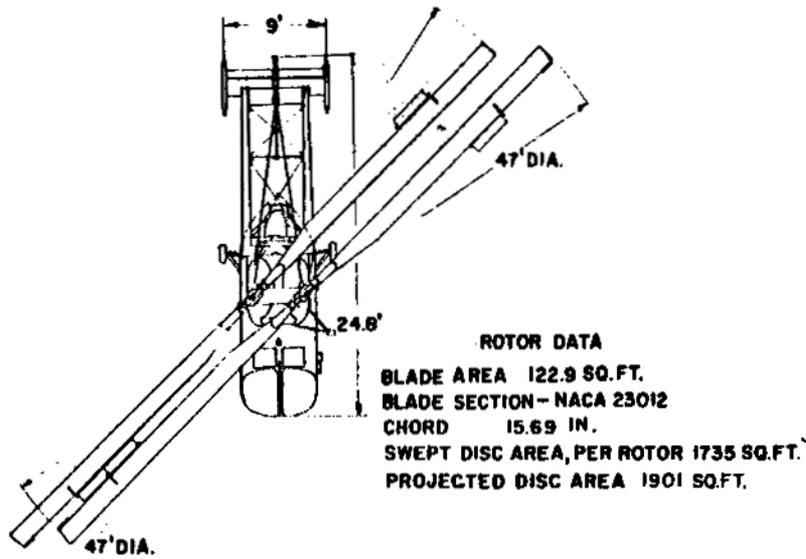




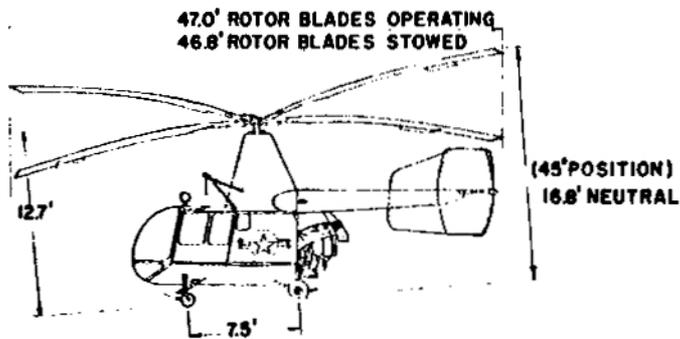
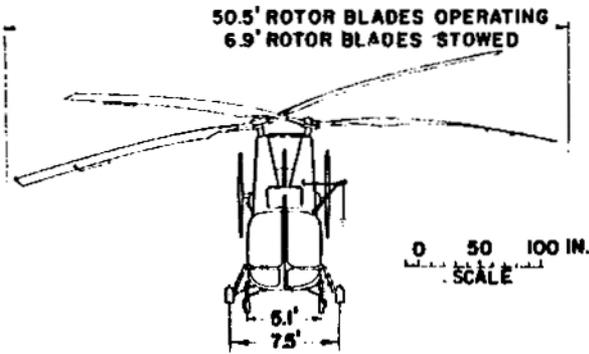
STANDARD AIRCRAFT CHARACTERISTICS

HUK-1

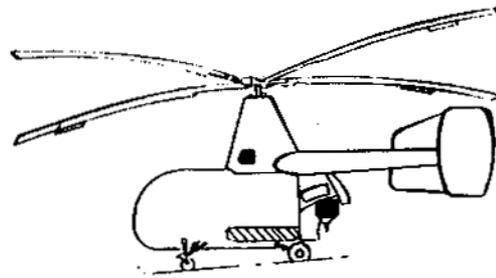
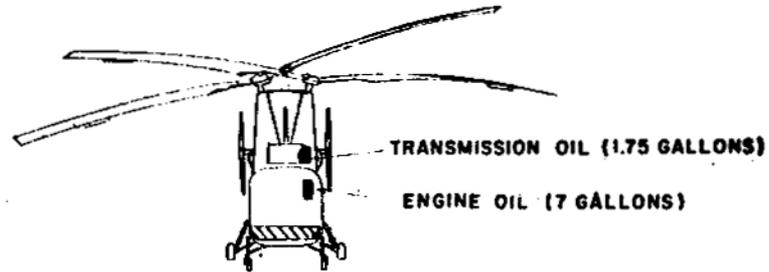
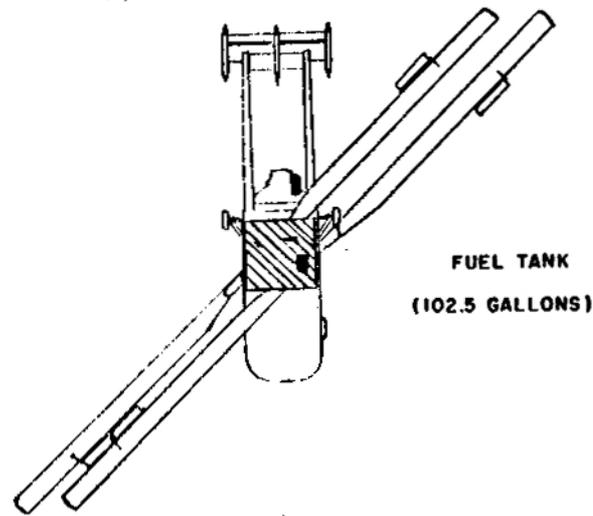
KAMAN



ROTOR DATA
 BLADE AREA 122.9 SQ.FT.
 BLADE SECTION - NACA 23012
 CHORD 15.69 IN.
 SWEEP DISC AREA, PER ROTOR 1735 SQ.FT.
 PROJECTED DISC AREA 1901 SQ.FT.



DESCRIPTIVE ARRANGEMENT



TANKAGE INSTALLATION

Standard Aircraft Characteristics NAVARR 1335B (Rev. 1-55)

POWER PLANT

NO. & MODEL (1)R-1340-52
 MFR. Pratt & Whitney
 SUPERCH 1stg.1spd
 IMPELLER RATIO 10:1
 ROTOR GEAR RATIO 9.357:1

RATINGS

	RHP	/	RPM	/	ALT
T.O. (5 min.)	600		2250		3000'
NORMAL	550		2200		5000'

Spec No. 1308A
 of 10 April 1957

ACCOMMODATIONS

Pilot 1
 Crewman 1
 Passengers 3

or

Pilot 1
 Attendant 1
 Litters 2

CARGO

External Sling Capacity 1000 lbs.

MISSION AND DESCRIPTION

The HUK-1 is a rescue, cargo, and utility helicopter performing missions such as air-sea rescue, cargo transport, and evacuation of wounded.

For the evacuation mission the co-pilot's seat is removed and two litters are carried internally plus an attendant. The port side of the nose bubble swings open for loading and unloading the litters.

The helicopter has two side-by-side intermeshing rotors of two blades which are controlled by means of aerodynamic servo control flaps. Twin tail booms and vertical stabilizers provide forward flight stability. A rescue hoist of 600 pounds capacity is installed on the fuselage. An external cargo sling capability is provided with a 1000 pound capacity. In-flight blade tracking is incorporated. Provisions are incorporated for positioning the rotor blades fore and aft parallel to the fuselage centerline to facilitate stowage.

DEVELOPMENT

First Flight February 1958
 Fleet Delivery May 1958

DIMENSIONS

Span-Rotors Operating..... 50.5* ft.
 Rotor Blade Diameter..... 47.0* ft.
 Height..... 16.3* ft.
 Max. Wheel Tread 7.5* ft.
 Horiz. Tail Span 9.0* ft.
 Rotor Tip Grd Clearance..... 6.6* ft.
 (min at rest)
 Blade Area..... 122.92 sq. ft.
 Rotor Disc Area* 1901 sq. ft.

*Projected

WEIGHTS

LOADING	POUNDS	L.F.
Empty	4308
Basic	4386
Design	6203	3.00
Max. T.O.	6350	2.93
Max. Landing ..	6350	2.93

FUEL AND OIL

GALS.	NO. TANKS	LOCATION
102	1	Fuselage

Fuel Grade 91/96
 Fuel Spec MIL-F-5572B

OIL

Engine Sect (gals)..... 7.0
 Grade 1100
 Spec MIL-L-6082B
 Transmission (gals)..... 1.75
 Grade Medium
 Spec MIL-L-6086A

ELECTRONICS

VHF Communications AN/ARC-1
 UHF Communications AN/ARC-55
 UHF Direction Finder AN/ARA-25
 Radio Set AN/ARC-39
 Radar Ident. AN/APX-6B
 Coder Group AN/AFA-89
 ADF AN/ARN-59

Standard Aircraft Characteristics NAVAR-1395C (Rev. 1-55)

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION	(1) Rescue/Utility 1 - PILOT 1 - CO-PILOT 3 - PASSENGERS	(2) CARGO 1 - PILOT			
TAKE-OFF WEIGHT	lb.	6117	6203		
Fuel	lb.	610	522		
Payload	lb.	600	1000		
Disc loading	lb./sq.ft.	3.52	3.57		
Vertical rate of climb at S.L.	(A) fpm.	600	505		
Absolute hovering ceiling	(A) ft.	5300	4750		
Max. rate of climb at S.L.	(B) fpm.	870	850		
Service ceiling (100 fpm)	(B) ft.	15300	14700		
Speed at S.L.	(B) kn.	89	88		
Max. speed/altitude	(B) kn./ft.	89/S.L.	88/S.L.		
Combat range	n.mi.	175	142		
Average cruising speed	kn.	65	63		
Cruising altitude	ft.	S.L.	S.L.		
Combat radius	n.mi.	80	—		
Average cruising speed outgoing/returning	kn/kn.	68/64	—		
Cruising altitude	ft.	S.L.	—		
Maximum endurance	hr.	3.10	2.54		
Average cruising speed	kn.	43	43		
Cruising altitude	ft.	S.L.	S.L.		

NOTES

(A) TAKE-OFF POWER
(B) NORMAL POWER

PERFORMANCE based on NATESTCEN Evaluation of the HUK-1 extrapolated to the higher power ratings of P&W Spec. No. 1308A.
RANGE, RADIUS, and ENDURANCE are based upon flight test fuel consumption and engine specific fuel consumption increased 5%.
All performance out of Ground Effect

COMBAT RANGE MISSION

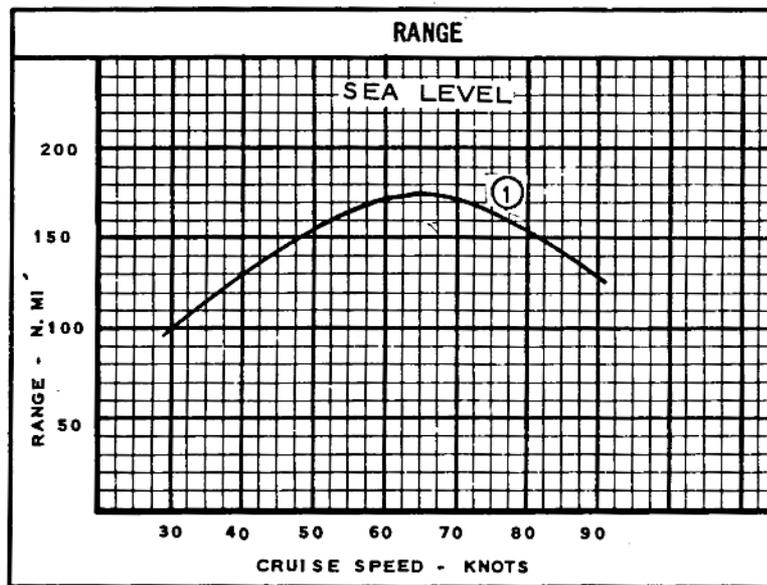
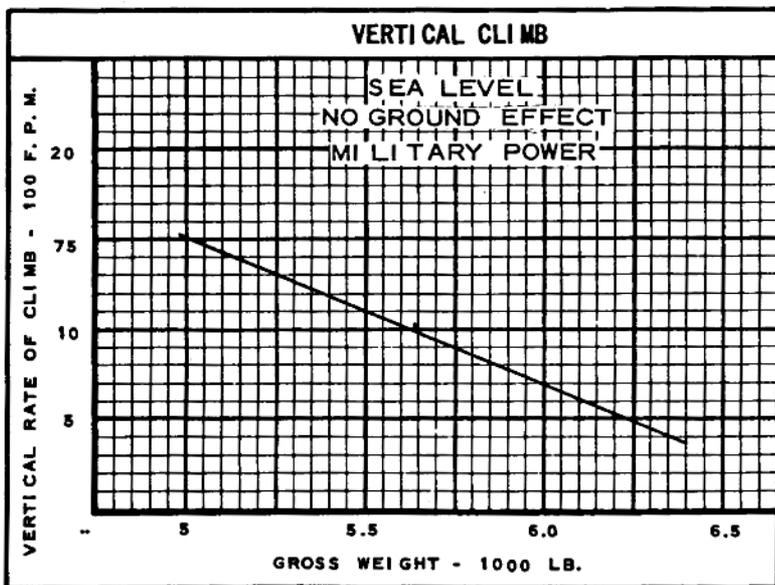
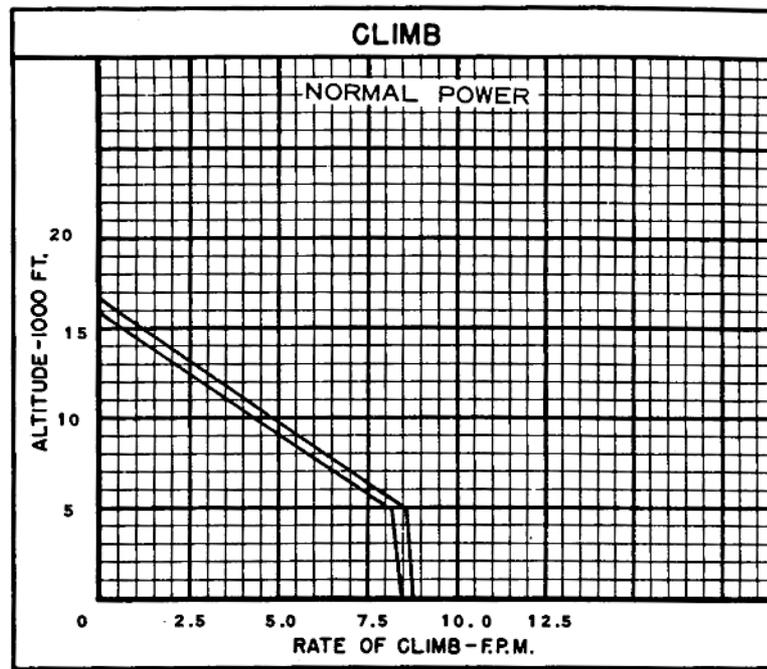
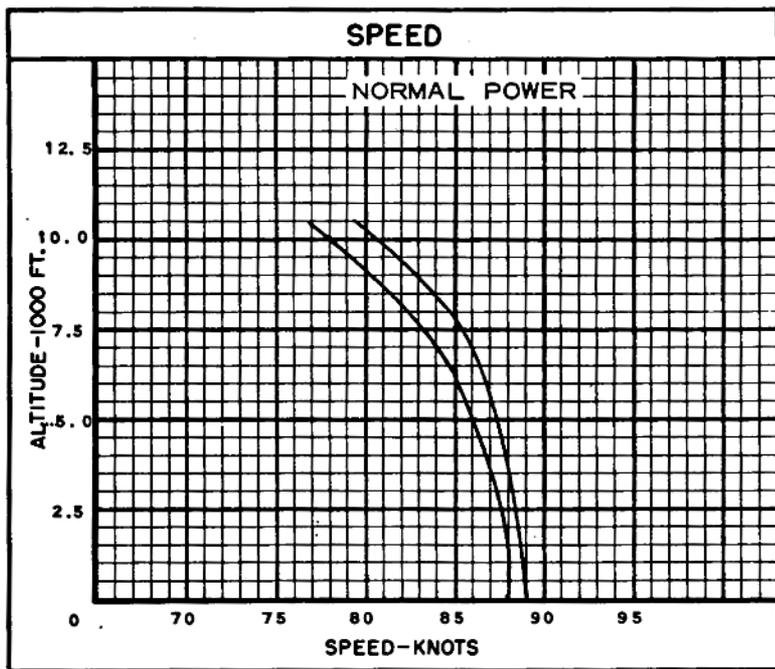
WARM-UP AND TAKE-OFF: 10 minutes at Normal Rated Power
CRUISE: At sea level at speed for best range
RESERVE: 10% of initial fuel load

COMBAT RADIUS MISSION

WARM-UP AND TAKE-OFF: 10 minutes at Normal Rated Power
CRUISE OUT: At sea level at speed for best range
HOVER: 10 minutes out of ground effect at sea level—pick up survivors (3)
CRUISE BACK: At sea level at speed for best range
RESERVE: 10% of initial fuel load

MAXIMUM ENDURANCE MISSION

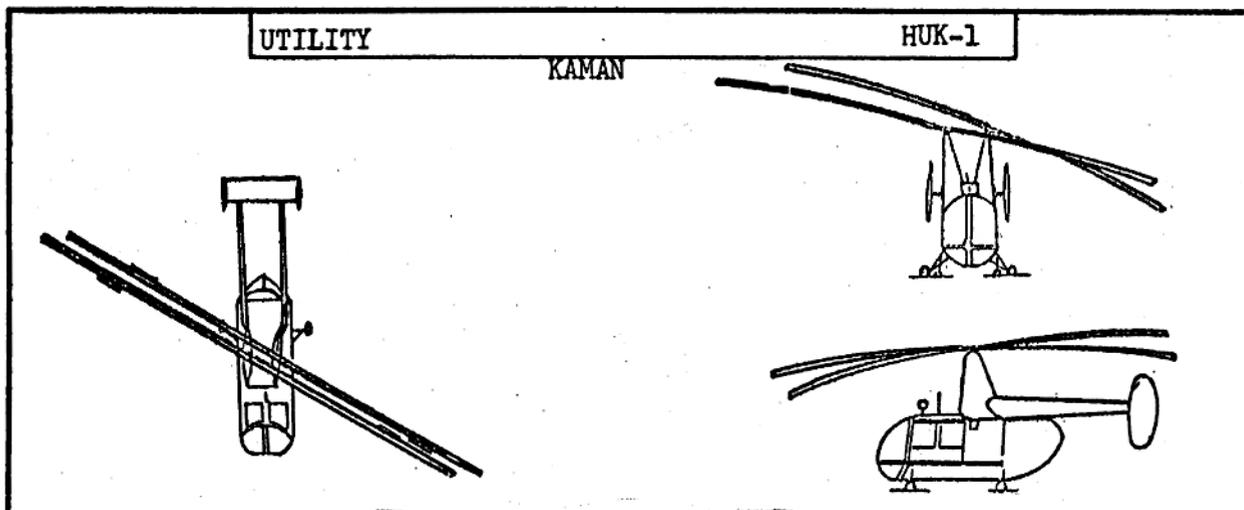
WARM-UP AND TAKE-OFF: 10 minutes at Normal Rated Power
CRUISE: At sea level at speed for maximum endurance
RESERVE: 10% of initial fuel load



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics, NAVAR 1335E (Rev. 1-55)

CHARACTERISTICS SUMMARY



DISC AREA 1901 sq. ft. (PROJECTED)

LENGTH 47' - 0"

ROTOR DIA. 47 ft.

HEIGHT 16' - 4"

AVAILABILITY			PROCUREMENT			
NUMBER AVAILABLE			NUMBER DELIVERED IN FISCAL YEARS			
ACTIVE	RESERVE	TOTAL				

STATUS	
First Flight	February 1958
Fleet Delivery	May 1958

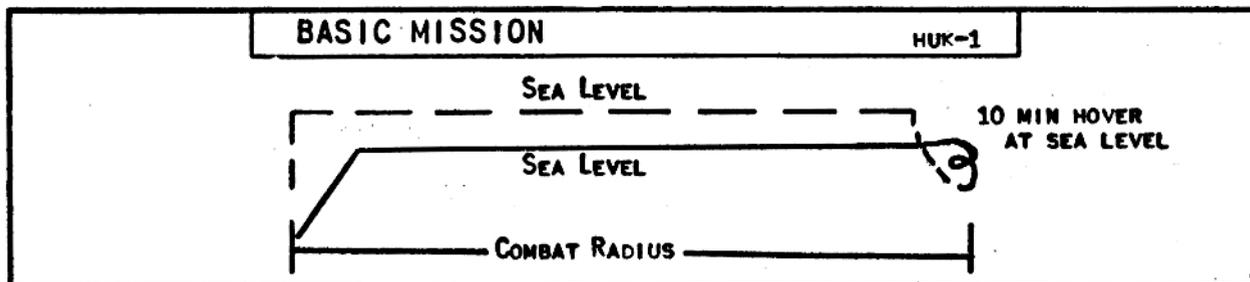
ENGINES			
(1) R-1340-52			
	<u>RHP</u>	<u>RPM</u>	<u>ALT</u>
T.O.	600	2250	3000'
NORM	550	2200	5000'

FEATURES
Employs Aerodynamic Servo Flaps for Blade Control
In-Flight Blade Tracking
400 lb. Hoist Capacity

ARMAMENT
NONE
Crew..... 2
Passengers ... 3

NAVAER-1519E (Rev. 6-56)

CHARACTERISTICS SUMMARY



PERFORMANCE		
ENDURANCE	RANGE	SPEED
3.1 hours	175 naut. mi.	89 knots at SL ft.
43 knots avg.	65 knots avg.	knots at ft.
SL ft. alt.	SL ft. alt.	Normal Gross Weight NORMAL Power
FORWARD FLIGHT CLIMB	SERVICE CEILING	HOVERING CEILING
870 ft./min.	15,300 ft.	5,300 ft.
Sea Level, N. G. Wt. NORMAL Power	100 ft./min., N. G. Wt., NORMAL Power	N. G. Wt., MAXIMUM Power out of ground effect
		ft. N. G. Wt., Power in ground effect
LOAD	WEIGHTS	VERTICAL CLIMB
Fuel 102 gal.	Empty 4308 lbs.	6 00 ft./min.
Internal 102 gal.	Normal Gross 6203 lbs.	Sea Level, N. G. Wt., MAXIMUM Power
External gal.	Overload 6350 lbs.	
Payload 610 lbs.		

NOTES

PERFORMANCE BASED ON NATESTCEN EVALUATION OF HUK-1.
 RANGE AND ENDURANCE BASED ON NATESTCEN FUEL CONSUMPTION TESTS.
 ALL PERFORMANCE OUT OF GROUND EFFECT.