

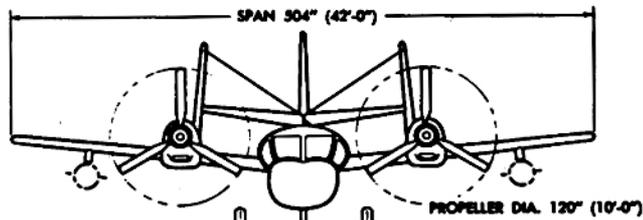
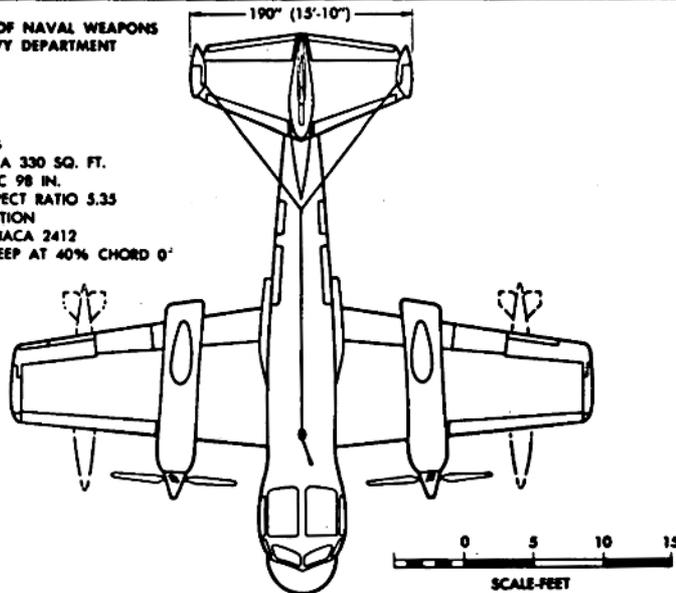
STANDARD AIRCRAFT CHARACTERISTICS

OV-1A MOHAWK

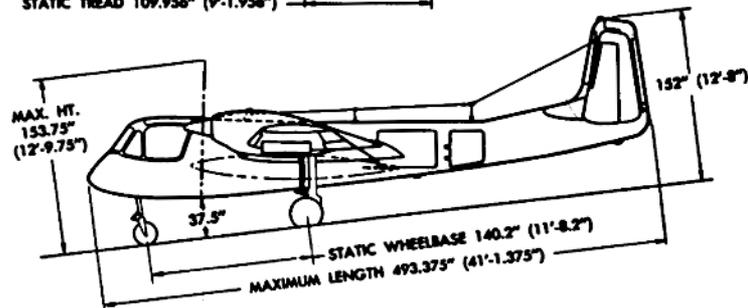
SERVICE

BUREAU OF NAVAL WEAPONS
NAVY DEPARTMENT

WING
AREA 330 SQ. FT.
MAC 98 IN.
ASPECT RATIO 3.35
SECTION
NACA 2412
SWEEP AT 40% CHORD 0°



STATIC TREAD 109.956" (9'-1.956")



DESCRIPTIVE ARRANGEMENT
AO-1AF

BUREAU OF NAVAL WEAPONS
NAVY DEPARTMENT

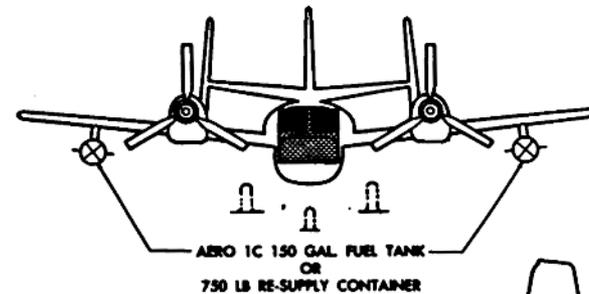
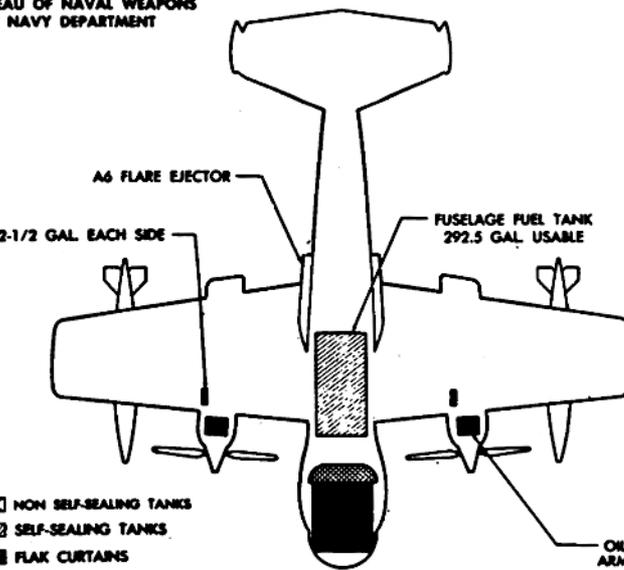
A6 FLARE EJECTOR

OIL 2-1/2 GAL EACH SIDE

FUSELAGE FUEL TANK
292.5 GAL USABLE

- ⊠ NON SELF-SEALING TANKS
- ▨ SELF-SEALING TANKS
- FLAK CURTAINS
- BULLET RESISTANT GLASS ARMOR PLATE

OIL COOLER
ARMOR PLATE



ARMAMENT & TANKAGE
AO-1AF

POWER PLANT

Turboprop
 Model _____ (2) T-53-L-3
 Mfr. _____ Lycoming
 Type _____ Axial-Centrif.
 Eng. Length _____ 58.85"
 Eng. Diam. _____ 23"
 Eng. Spec. No. _____ 104.11
 Reduc. Gear Ratio _____ 12.46
 Prop. Mfr. _____ Ham Std.
 No. Bl./Diam. _____ 3/10'
 Prop Bl. Des. No. _____ 7103-6

RATINGS

COND.	SHP @	PRPM @	ALT
Take-off	960	1674	S. SL
Military	900	1674	S. SL
Normal	825	1674	S. SL

ELECTRONICS

UHF Command Set _____ AN/ARC-55
 FM Radio Set _____ AN/ARC-44
 LF-ADF Dir. Finder _____ AN/ARN-59
 VOR Navigational Set _____ AN/ARN-30
 Interphone - Transistorized -
 _____ AN/AIC-12
 Marker Beacon Rec. _____ AN/ARN-68
 Complete Provisions For:
 Identification Set _____ AN/APX-44
 Space Provided For:
 Doppler Radar _____ AN/APN-118
 Auto Pilot _____ AN/ASW-12
 MHF Set _____ AN/ARC-73
 VHF Transmitter _____ T366
 Radar Altimeter _____ APN-22

MISSION AND DESCRIPTION

The Grumman AO-1AF is a two place, twin turboprop aircraft, capable of operating from small fields and unimproved runways. The aircraft is capable of performing missions of observation, artillery gun fire spotting, air control emergency resupply liaison, and radiological monitoring.

Design features include a dual controlled, midwing, three tail configuration of semi-monocoque construction equipped with wide span flaps, and leading edge slats.

The crew of two are seated side-by-side within a bubbled enclosure at the extreme forward end of the fuselage.

A remotely operated day and night KA-30 camera installation provides horizon-to-horizon photo coverage along the airplane flight path.

External provisions are incorporated to carry 150 gallon fuel tanks and emergency resupply containers.

DEVELOPMENT

First Flight (Proto) _____ April 1960
 Estimated First Service Use _____ Sept. 1960

DIMENSIONS

Wing
 Area _____ 330 sq. ft.
 Span _____ 42' - 0"
 M. A. C. _____ 98"
 Length _____ 42' - 9.5"
 Height _____ 12' - 8"
 Tread _____ 9' - 2"

WEIGHTS

Loading	Lbs.	L. F.
Empty E	9400	
Basic	9781	
Design	11715	5
Combat		
(Basic Mission)	11252	
Normal T. O.	12012	
Max. T. O.	15020	
Max. Land.	15020	

FUEL AND OIL

JP-4 (6.5#/Gal.) MIL-F-5624A

Gal.	No. Tanks	Location
292.5	1	Fuselage
150	2	External

OIL

Capacity _____ 5 Gallons
 Spec. _____ MIL-L-7808B

ORDNANCE

2 Flare Ejectors
 2 Resupply Containers

PERFORMANCE SUMMARY

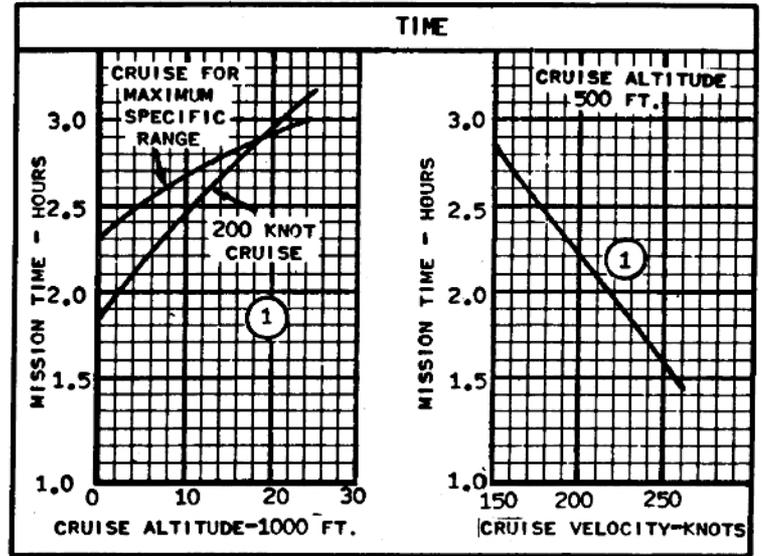
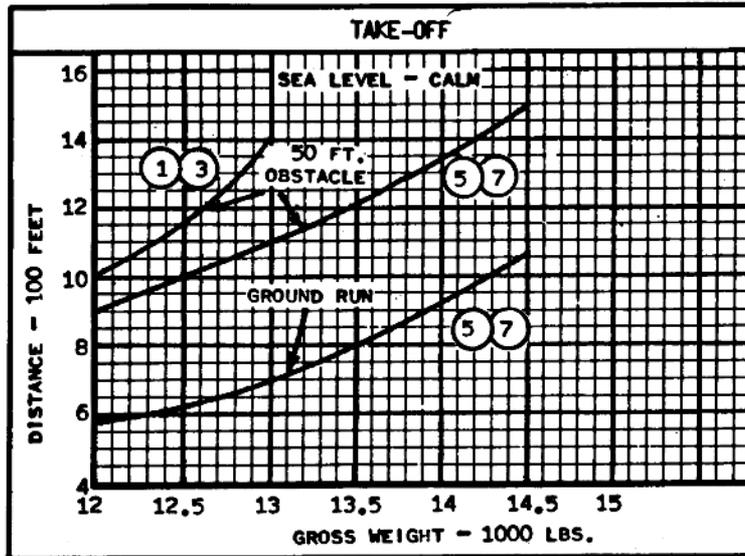
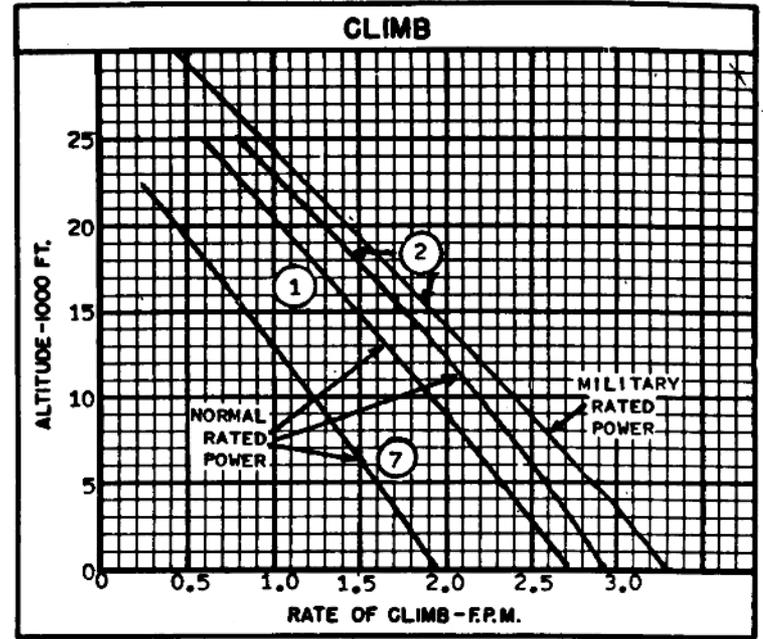
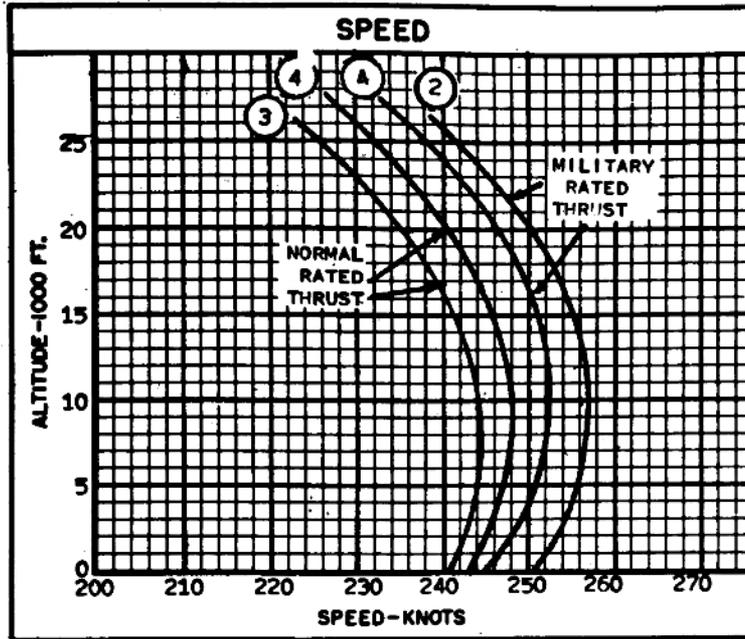
TAKE-OFF LOADING CONDITION	①	OBSERVATION NO STORES	③	NIGHT PHOTO 2-A6 EJECTORS	⑤	EMERGENCY RESUPPLY 2-RESUPPLY CONTAINERS	⑦	FERRY 2-150 GAL. EXT. TANKS	⑨
TAKE-OFF WEIGHT	lb.	12012		12273		13647		14371	
Fuel	lb.	1901		1901		1901		1901/1950	
Payload	lb.	-		264		1500		-	
Wing loading	lb./sq.ft.	36.4		37.2		41.4		43.5	
Stall speed-power-off (D)	kn.	68		69		74		76	
Take-off run at S.L. - calm	ft.	660(F)		722(F)		825(G)		1005(G)	
Take-off run at S.L. - 25 kn. wind	ft.	270(F)		320(F)		355(G)		430(G)	
Take-off to clear 50 ft. - calm	ft.	1010(F)		1080(F)		1255(G)		1450(G)	
Max. speed / altitude (A)	kn./ft.	260/10000		257/10000		245/9000		244/8000	
Rate of climb at S.L. (A)	fpm	2675		2560		2100		1935	
Time: S.L. to 20000 ft. (A)	min.	11.0		12.0		16.0		18.5	
Time: S.L. to 25000 ft. (A)	min.	16.5		18.4		28.0		35.0	
Service ceiling (100 fpm)	ft.	30380		30380		27000		23800	
Combat range (C)	n.mi.	433		424		390		1195	
Average cruising speed	kn.	200		200		200		205	
Cruising altitude(s)	ft.	5000		5000		5000		20000	
COMBAT RAD./MISSION TIME	KN./hr.	175 / 2.14		174 / 2.09		156 / 1.92		- / 5.63	
AVG. CRUISING SPEED	KN.	200		200		200		205	
COMBAT LOADING CONDITION	②	NO STORES	④	2-A6 EJECTORS	⑥	2-RESUPPLY CONTAINERS	⑧		⑩
COMBAT WEIGHT 60% Int. Fuel Aboard	lb.	11252		11513		12887			
Engine power		Military		Military		Military			
Fuel	lb.	1141		1141		1141			
Combat speed / combat altitude	kn./ft.	250 / 5000		250 / 5000		250 / 5000			
Rate of climb / combat altitude	fpm/ft.	2860 / 5000		2752 / 5000		2253 / 5000			
Combat ceiling, (500 fpm)	ft.	25500		25200		24000			
Rate of climb at S.L.	fpm	3310		3185		2645			
Max. speed at S.L.	kn.	251		248		246			
Max. speed / altitude	kn./ft.	256 / 10000		255 / 10000		251 / 8000			
LANDING WEIGHT 10% Int. Fuel Aboard	lb.	10301		10562		11936			
Fuel	lb.	190		190		190			
Stall speed-power-off (D) / approach power (E)	kn.	60 / 53		61 / 54		65 / 57			
Landing distance GND, / 30' Obst. - Calm	ft.	858(I)		878(I)		1300(H)			

- (A) Normal Rated Power
 (B) Military Rated Power
 (C) See Notes on Mission Specs
 (D) Flt. Idle Power, Propeller Control at MAX RPM
 (E) Power for Level Flight at 120 per cent of Stall Speed - Power Off, Propeller Control at MAX RPM

NOTES

- (F) Take-Off Distances are Based upon Take-Off and Obstacle Speeds Satisfying minimum speeds for Single Engine control and Positive rate of climb as per Detail Spec. 532-1.

- (G) Take-Off Distances are Based upon Take-Off and Obstacle speeds satisfying single engine control.
 (H) Landing Distance is Based on a Rate of Sink of 8 Feet Per Second
 (I) Landing Distance is Based on a Rate of Sink of 14 Feet Per Second.



○ LOADING CONDITION COLUMN NUMBER

NOTES

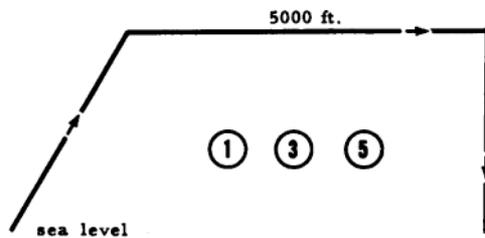
TACTICAL AIR OBSERVATION MISSION
& NIGHT PHOTOGRAPHY

5 min. for warm-up, taxi, and take-off @ normal rated power

climb to 5000 ft. @ normal rated power

cruise @ 200 knots @ 5000 ft.

reserve-10% of initial internal fuel

FERRY MISSION

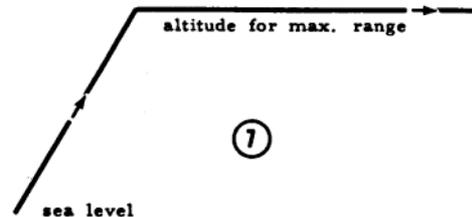
5 min. for warm-up, taxi, and take-off @ normal rated power

climb to altitude for max. range @ normal rated power

cruise at altitude and velocity for max. range

reserve-10% of initial internal fuel

external fuel tanks dropped when empty



LOADING CONDITION COLUMN NUMBER