

STANDARD AIRCRAFT CHARACTERISTICS

AO-1CF MOHAWK

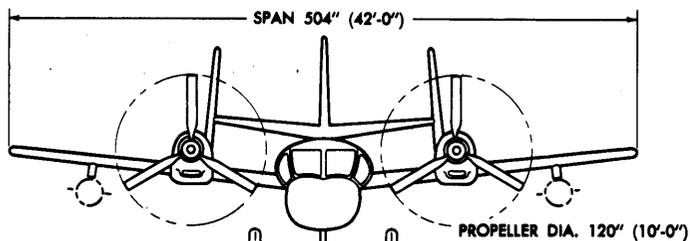
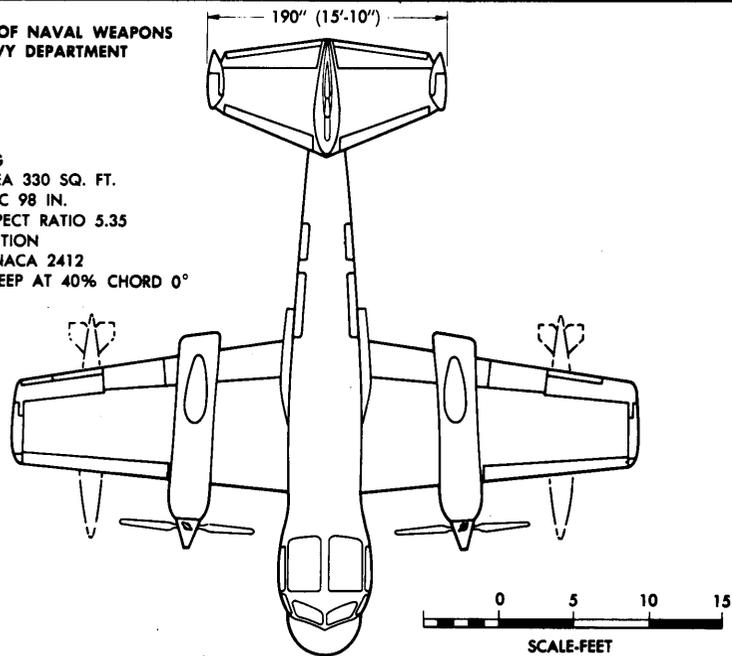
GRUMMAN

13
15 MARCH 1963

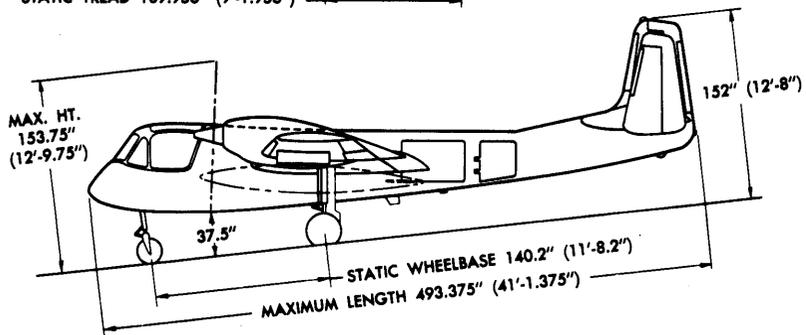
OV-10 (AO-1CF)

BUREAU OF NAVAL WEAPONS
NAVY DEPARTMENT

WING
AREA 330 SQ. FT.
MAC 98 IN.
ASPECT RATIO 5.35
SECTION
NACA 2412
SWEEP AT 40% CHORD 0°

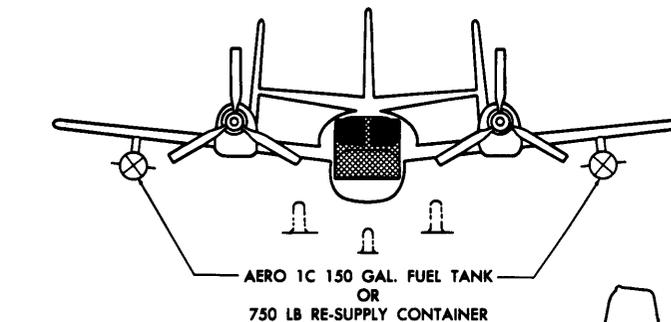
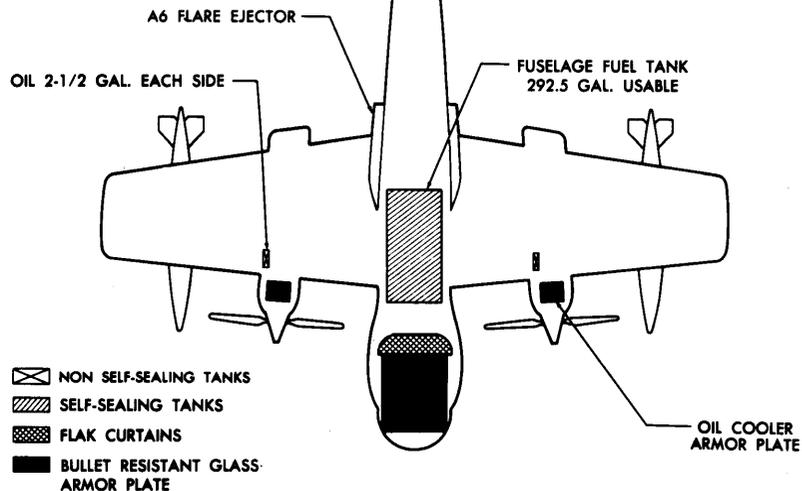


STATIC TREAD 109.956" (9'-1.956")



DESCRIPTIVE ARRANGEMENT
AO-1CF

BUREAU OF NAVAL WEAPONS
NAVY DEPARTMENT



ARMAMENT AND TANKAGE
AO-1CF

OV-10C (AO-1CF)

15 MARCH 1963

POWER PLANT

Turboprop
 Model _____ (2) T-53-L-3
 Mfr. _____ Lycoming
 Type _____ Axial-Centrif.
 Eng. Length _____ 58.85"
 Eng. Diam. _____ 23"
 Eng. Spec. No. _____ 104.11b
 Reduc. Gear Ratio _____ 12.46
 Prop. Mfr. _____ Ham Std.
 No. Bl. /Diam. _____ 3/10'
 Prop Bl. Des. No. _____ 7125-6

RATINGS

COND.	SHP @	PRPM @	ALT
Take-off	960	1678	S. SL
Military	900	1678	S. SL
Normal	825	1678	S. SL

ELECTRONICS

UHF Radio Set _____ AN/ARC-55
 FM Radio Set _____ AN/ARC-44
 VHF Radio Set _____ AN/ARC-73
 Interphone-Transistorized
 _____ AN/AIC-12
 LF-ADF Dir. Finder _____ AN/ARN-59
 Identification Set _____ AN/APX-44
 VOR Navigation Set _____ AN/ARN-30
 Marker Beacon Rec. _____ R-737
 Radar Altimeter _____ APN-22
 VHF Transmitter _____ T-366A/ARC
 Auto Pilot _____ AN/ASW-12
 Infra Red Surviel. Syst. _____ UAS-4
 Space Provided for:
 Doppler Radar _____ AN/APN-118
 HF Radio Set _____ AN/ARC-()

MISSION AND DESCRIPTION

The Grumman AO-1CF is a two place, twin turbo-prop 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, mid-wing, three tail configuration of semimonocoque 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.

The AO-1CF version of the Mohawk carries AN/UAS-4 Infrared Detection equipment. The infrared surveillance system makes it possible to detect military terrestrial targets by inherent characteristics that are distinguishable in the visual and infrared portion of the electromagnetic spectrum.

External provisions are incorporated to carry two 150 gallon fuel tanks, or two resupply containers.

DEVELOPMENT

First Flight (Proto) _____ March 1961
 First Service Use _____ July 1961

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 A	10011	
Basic	10379	
Design	11924	4.9
Combat		
Basic Mission	12296	
Normal T. O.	12682	
Maximum T. O.	15302	
Max. Landing	15302	

FUEL AND OIL

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

Gal.	No. Tanks	Location
297	1	Fuselage
150	2	External

OIL

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

ORDNANCE

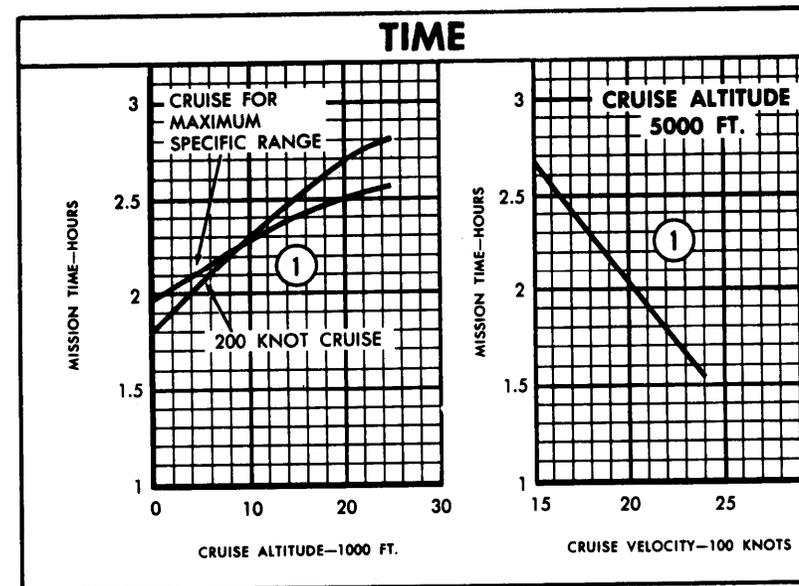
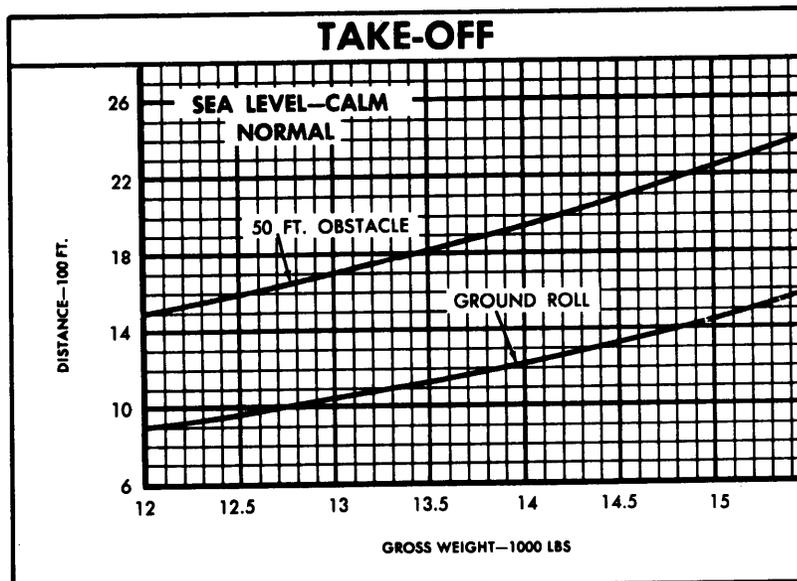
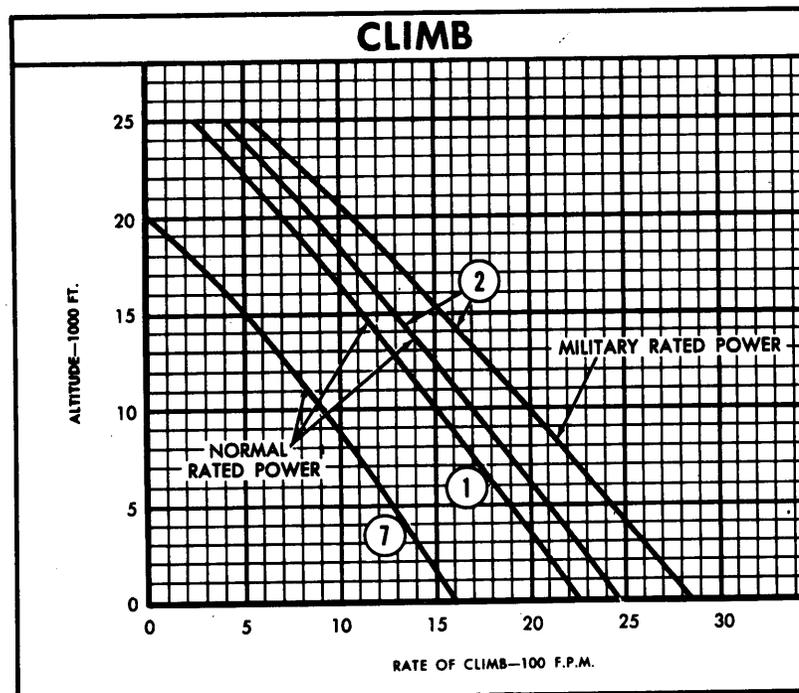
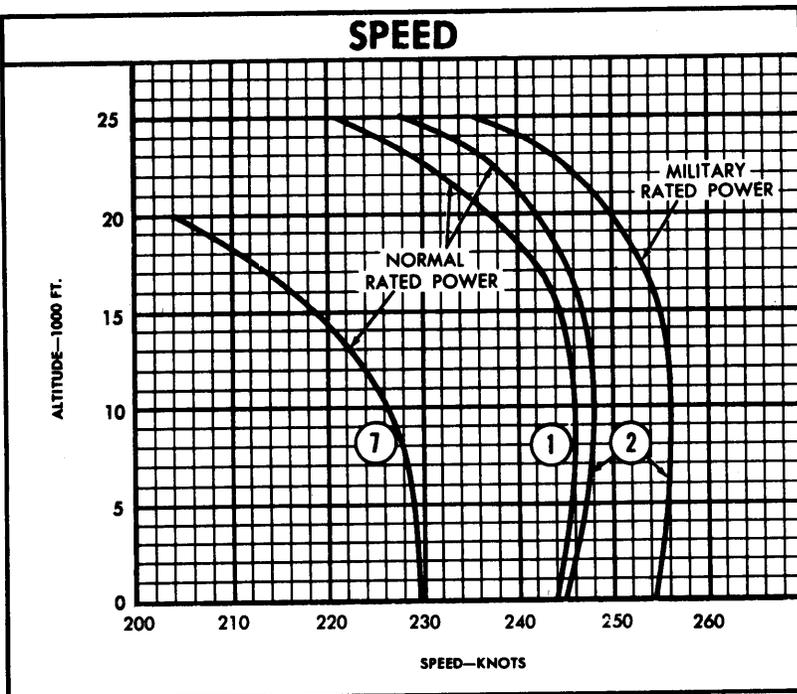
2 Flare Ejectors
 2 Resupply Containers

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		①	OBSERVATION NO STORES	③	NIGHT PHOTO 2-A6 EJECTORS	⑤	EMERG. RESUPPLY 2-RESUPPLY CONTAINERS	⑦	FERRY 2-150 GAL. EXT. TANKS
TAKE-OFF WEIGHT	lb.		12682		12943		14197		14961
Fuel	lb.		1930		1930		1930		3880
Payload	lb.		-		264		1500		-
Wing loading	lb./sq. ft.		38.4		39.2		43.0		45.3
Stall speed—power-off	(D) kn.		74		74		78		80
Take-off run at S.L.—calm	(F) ft.		990		1040		1270		1440
Take-off run at S.L. 25 kn. wind	(F) ft.		613		640		802		930
Take-off to clear 50 ft.—calm	(F) ft.		1640		1680		2000		2230
Max. speed/altitude	(A) kn./ft.		246/10000		243/10000		229/5000		230/Sea Lev.
Rate of climb at S.L.	(A) fpm.		2270		2175		1800		1630
Time: S.L. to 20,000 ft.	(A)/(B) min.		14/12		15/13		22/17		27/22
Time: S.L. to 25,000 ft.	(A)/(B) min.		24/20		27/22		47/35		64/47
Service ceiling (100 fpm)	(A)/(B) ft.		26200/27450		25700/26500		21600/23200		20200/21300
Combat range	(C) n.mi.		408		397		362		1081
Average cruising speed	kn.		200		200		200		215
Cruising altitude(s)	ft.		5000		5000		5000		20000
Cruise time	hr.		2.01		1.96		1.78		4.72
Mission time	hr.		2.05		2.00		1.83		5.17
COMBAT LOADING CONDITION		②	NO STORES	④	2-A6 EJECTORS	⑥	2-RESUPPLY CONTAINERS		
COMBAT WEIGHT 60% Int. Fuel	lb.		11910		12171		13425		
Engine power			MILITARY		MILITARY		MILITARY		
Fuel	lb.		1158		1158		1158		
Combat speed/combat altitude	(B) kn./ft.		256/5000		252/5000		240/5000		
Rate of climb/combat altitude	(B) fpm/ft.		2100/5000		2000/5000		1620/5000		
Combat ceiling (500 fpm)	(B) ft.		25200		24300		20400		
Rate of Climb at S.L.	(B) fpm.		2880		2780		2320		
Max. Speed at S.L.	(B) kn.		255		252		239		
Max. speed/altitude	(B) kn./ft.		256/10000		253/10000		240/5000		
LANDING WEIGHT 10% Int. Fuel	lb.		10945		11206		12460		
Fuel	lb.		193		193		193		
Stall speed—power-off (D) /approach power (E)	kn.		68/54		69/55		72/58		
Landing distance to clear 50 ft. obst.	ft.		850 (G)		870 (G)		1335 (H)		

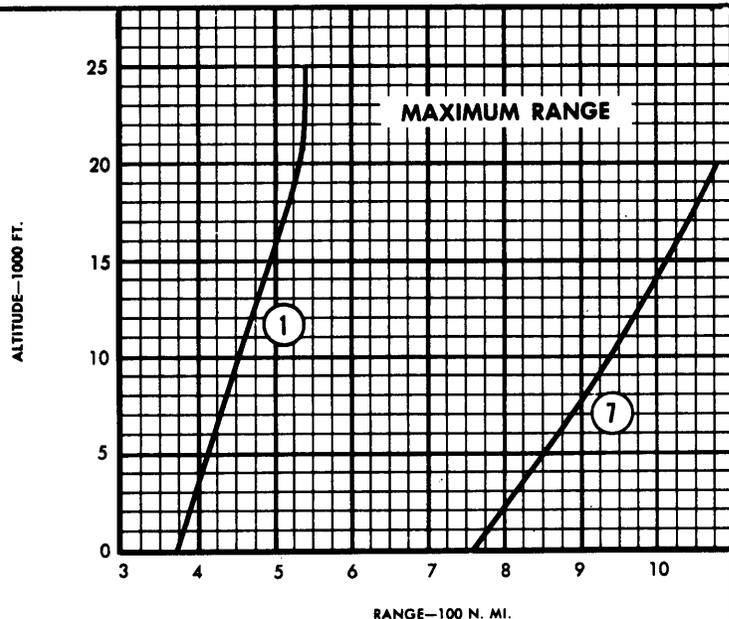
NOTES

- (A) Normal Rated Power
 (B) Military Rated Power
 (C) See notes on Mission Specifications.
- (D) Flight idle power, propeller control at max rpm.
 (E) Power for level flight at 120 percent of stall speed, power off, propeller control at max rpm.
 (F) Take-off distances are based on take-off and obstacle speed equal to 120 percent of power off stall speed in take-off configuration.
- (G) Landing distance is based on approach speed equal to 110 percent of landing stall speed with rate of sink equal to 14 fps.
 (H) Landing distance is based on approach speed equal to 110 percent of landing stall speed, power off with rate of sink equal to 8 fps.

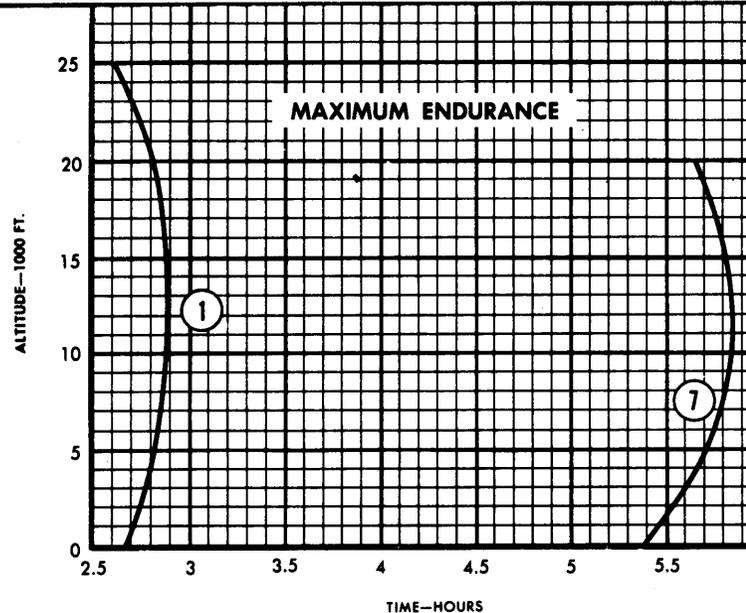


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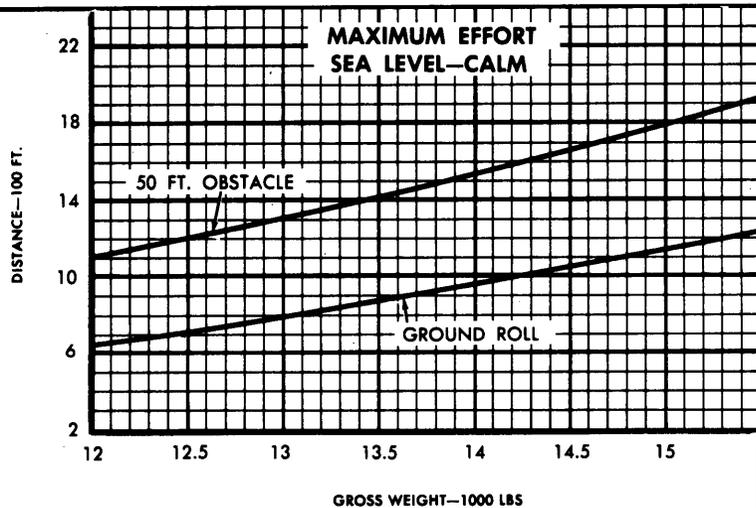
RANGE



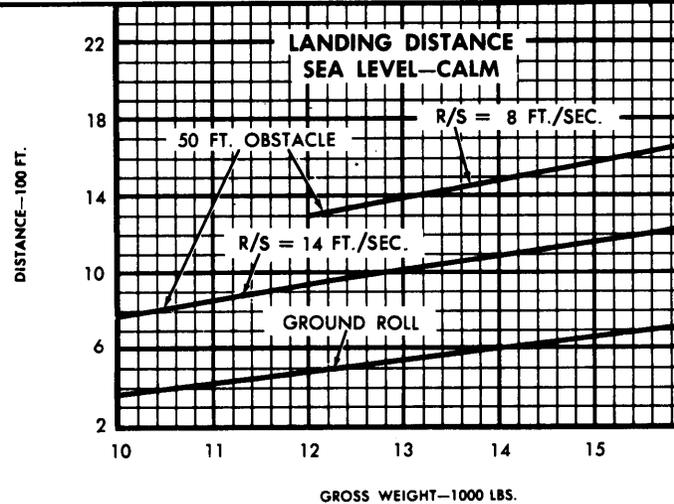
TIME



TAKE-OFF



LANDING



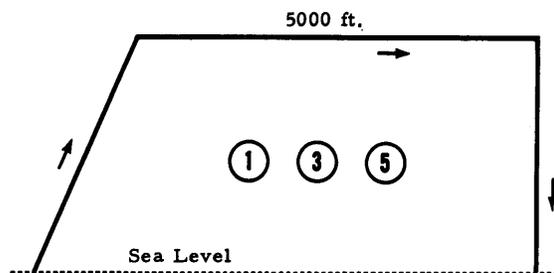
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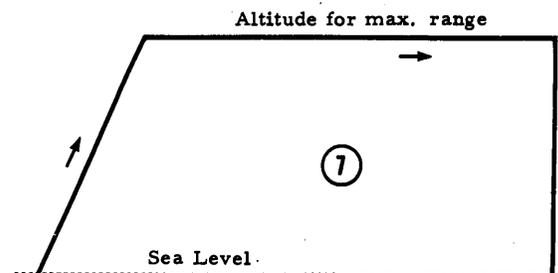
NOTES

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