

# STANDARD AIRCRAFT CHARACTERISTICS

## P-3C UPDATE II

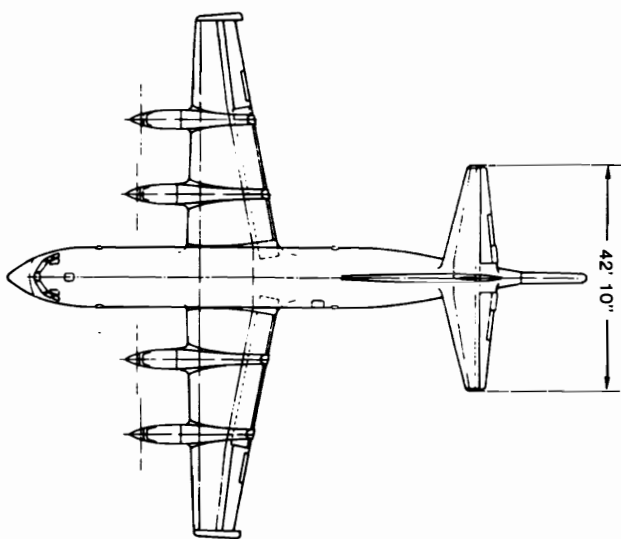
LOCKHEED

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 FOR OPEN PUBLICATION  
*Grace A. Stone*  
 FEB 23 1994  
 PUBLIC AFFAIRS OFFICE  
 NAVAL AIR SYSTEMS COMMAND

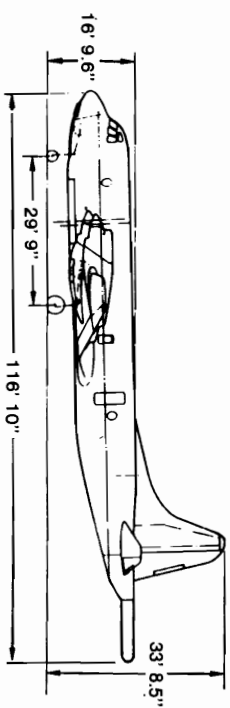
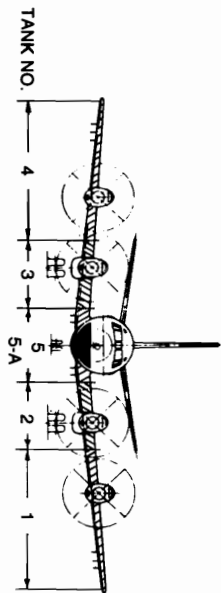
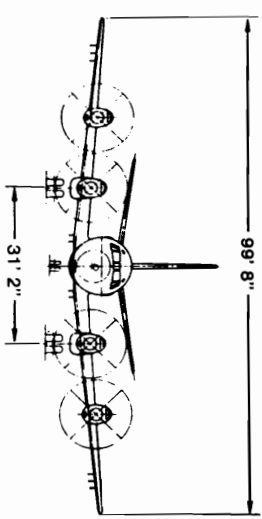
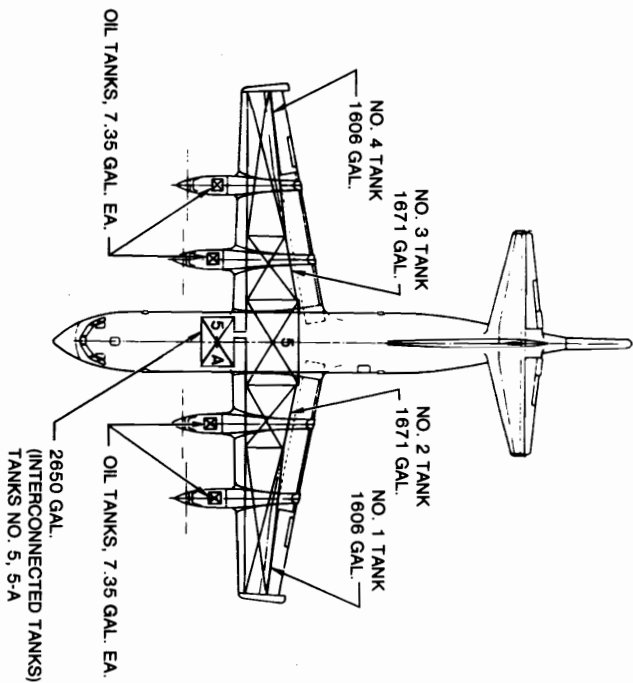
NOTE:  
 ALL INQUIRES CONCERNING DATA  
 IN THIS CHART SHOULD BE DIRECTED  
 TO NAVAIR, CODE 53012

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NOTE: USABLE TANK CAPACITIES  
INDICATED



DESCRIPTIVE ARRANGEMENT

TANKAGE

TANK NO. 5-A  
TANKS NO. 1 - 5  
NOTE: SEE ATTACHED SUPPLEMENTAL  
SHEET FOR ARMAMENT  
INSTALLATIONS

**POWER PLANT**

NO. AND MODEL (4) T56-A-14  
 MANUFACTURER Allison  
 SPECIFICATION: 670-D. 1 Jan. 1976  
 PROPELLER MFGH. Ham. Std.  
 NO. BLADES/DIA. 4/13.5 Ft.  
 PROPELLER NO. 54H80-77/AT121B-2  
 PROPELLER GEAR RATIO 1:13.54  
 PROPELLER SPEC 1845A

**RATINGS**

RATING	ESHP	THRUST	RPM
T.O.	4910	797	13,820
Military	4880	781	13,820
Normal	4385	760	13,820

**ELECTRONICS**

Communication	AN/ACO-5A
Data Terminal	AN/AGC-6
Teletypewriter	AN/AIC-22(V)1
Intercomm	AN/ARC-143B
UHF	AN/ARC-161
HF	AN/ART-5
Emerg. Trans.	AN/URT-26(V)
Crash Locator	618N-3/A
VHF Comm Group	
Navigation	
True Airspeed	AA24G-9
Central Repeater	AN-4923/A
Flight Director System	AN/AJN-15
Altimeter	AN/APN-194(V)
Navigation Set, Radar	AN/APN-227
RAWS	AN/APQ-107
UHF DF	AN/ARA-50
LF-DF	AN/ARN-83
Omega	AN/ARN-99(V)1
TACAN	AN/ARN-118(V)
AFCs	AN/ASW-31A
Horiz. Situation Ind.	ID-1540/A
Periscope Sextant	MS28011-7
OTPI Receiver	R1651/ARA
Sanctuary Reference Set	AN/ARS-3
VHF Navigation Group	VIR-31
Inertial Nav System	LTN-72

... Continued on NOTES page.

**MISSION AND DESCRIPTION**

The Lockheed P-3C Update II airplane is designed to detect, locate, and destroy enemy submarines and cargo vessels. Additional mission capabilities include the following: barrier patrol, convoy escort, mining, surveillance, and reconnaissance. Elements of these missions may be performed either completely independently or in support of/supported by various elements of naval forces. Capabilities are provided to insure mission effectiveness in day, night, and all-weather conditions, with due consideration for potential contact with enemy forces.

The P-3C Update II weapons bay, located in the bottom of the forward fuselage is 80 inches wide, 34.5 inches deep and 154 inches long. It is equipped with store suspension pylons designed to carry and release stores including torpedoes, depth bombs and mines.

The P-3C Update II airplane is equipped with ten external store pylons mounted beneath the wing, five pylons on either side of the airplane center line. These pylons are used to ferry and release torpedoes and mines. Harpoon missiles can be launched from the third and fourth outermost pylons of each wing and they can be ferried on the innermost pylon of each wing.

The data contained in these charts conform to the detail specification SD-536-2-11 and are valid for P-3C Update II aircraft covered under this specification (BUNCS 161329 - 161340).

**DEVELOPMENT**

FIRST FLIGHT P-3A	30 MARCH 1961
FLEET SERVICE P-3A	13 AUGUST 1962
FIRST FLIGHT P-3B	24 SEPTEMBER 1965
FLEET SERVICE P-3B	1 JANUARY 1968
FLEET SERVICE P-3B WITH ECP-494	26 AUGUST 1967
FIRST FLIGHT YP-3C	18 SEPTEMBER 1968
FLEET SERVICE P-3C	12 JUNE 1969
FIRST FLIGHT P-3C UDI	27 FEBRUARY 1974
FLEET SERVICE P-3C UDI	1 MAY 1974
FIRST FLIGHT P-3C UDI	30 NOVEMBER 1971
FLEET SERVICE P-3C UDI	5 MARCH 1977

**DIMENSIONS**

WING:	
Area	1300 Sq. Ft.
Span	99 Ft. 8 in.
M.A.C.	168.7 in.
LENGTH	116 Ft. 10 in.
HEIGHT	33 Ft. 8.5 in.
TREAD	31 Ft. 2 in.
PROP. GRD. CLEARANCE	21.75 in.

**WEIGHTS**

LOADINGS	lbs.	L.F.
Empty	66,900	-
Max Zero Fuel Wt. (No Wing Stores)	77,200	3.0,-1.0
Design (Flight)	135,000	3.0,-1.0
Combat	111,526	
Max. Take-Off, Normal	139,760	2.5,-0.8
Max. Take-Off, Overload	142,000	
Max. Landing - Normal	103,980	2.0,-0
Overload	114,000	

**FUEL AND OIL**

**FUEL**

NO. TANKS	GALS.*	LOCATION
2	3212	Wing (Outboard)
2	3342	Wing (Inboard)
1	2650	Center and Fuselage Aux.
Total	9204	

**OIL**

FUEL	JP-5
FUEL SPEC	MIL-F-5624C
* Total usable fuel:	
Total Usuable Capacity (Gals.)	21
Spec	MIL-L-7808C

**ORDNANCE**

STATIONS	PAYLOAD
9 & 18	500 lb class store
10 & 17	1000 lb class store
11 & 16	2000 lb class store
12 & 15	2000 lb class store
13 & 14	2000 lb class store
Internal	Limited by size of stores

## PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) ASW1 4 MK-46/1 B-57	(3) RECON 2 MK-46/4 AGM-84A	(5) MINELAYING 10 MK-36	(7) OVERLOAD MINELAYING 10 MK-36	(9) FERRY 6 PYLONS
TAKE-OFF WEIGHT	lb.	138,902	139,760	139,760	142,000	133,175
Fuel (JP-5)	lb.	62,587	59,530	55,940	58,180	62,587
Payload	lb.	4,829	8,279	12,000	12,000	500
Wing loading	lb./sq. ft.	106.8	107.5	107.5	109.2	102.4
Stall speed—power-off	kn.	123	123	123	125	121
Take-off run at S.L.—calm	(A) ft.	4,650	4,660	4,660	4,680	4,200
Take-off to clear 50 ft.—calm	(A) ft.	6,020	6,080	6,170	6,240	5,480
Max. speed/altitude	(B) kn./ft.	382/10,000	358/9,000	339/7,000	338/7,000	376/9,000
Rate of climb at S.L.	(B) fpm.	1,840	1,700	1,580	1,530	1,940
Time: S.L. to 10,000 ft.	(B) min.	6.7	7.5	8.4	8.7	6.4
Time: S.L. to 20,000 ft.	(B) min.	18.4	23.5	29.2	31.5	18.0
Service ceiling (100 fpm)	(B) ft.	24,000	22,300	20,700	20,200	24,900
Combat range	n.mi.	4,405	3,705	3,220	3,345	4,522
Average cruising speed	kn.	349	330	275	277	350
Cruising altitude(s)	ft.	22,600/32,300	20,100/29,600	19,200/27,800	18,700/27,700	22,650/34,400
Combat radius/mission time	n.mi./hr.	1,585/12.9	1,225/11.8	1,310/8.8	1,415/9.1	
Average cruising speed	kn.	363	320	285	309	
Search time(s)/altitude(s)	hr/ft.	3/20,000; 1/200	3/5,000; 1/200			
Search speed(s)	kn.	273/192	226/194			
<b>COMBAT LOADING CONDITION</b>		(2) STORES RETAINED	(4) STORES RETAINED	(6) MINES EXPENDED	(8) MINES EXPENDED	
COMBAT WEIGHT	lb.	113,867	115,948	105,384	106,728	
Engine power	MILITARY		MILITARY	MILITARY	MILITARY	
Fuel	lb.	37,552	35,718	33,564	34,908	
Combat speed/combat altitude	kn./ft.	403/20,000	368/5,000	364/200	363/200	
Rate of climb/combat altitude	fpm/ft.	1,110/20,000	2,260/5,000	2,870/200	2,820/200	
Combat ceiling (500 fpm)	ft.	27,000	25,400	28,700	28,300	
Rate of climb at S.L.	fpm.	2,630	2,490	2,880	2,830	
Max. speed at S.L.	kn.	366	348	363	362	
Max. speed/altitude	kn./ft.	404/16,000	377/15,000	399/16,000	398/16,000	
<b>LANDING WEIGHT</b>						
Fuel	lb.	82,574	86,183	77,414	77,638	76,847
Stall speed—power-off/approach power	kn./kn.	6,259	5,953	5,594	5,818	6,259
Landing distance—groundroll/over 50 ft. obst.	ft./ft.	88/82	90/83	85/79	86/79	85/78
		1,510/2,240	1,580/2,340	1,430/2,120	1,440/2,140	1,410/2,090

## NOTES

PERFORMANCE BASIS: Flight tests.  
 RANGE AND/OR RADIUS: Fuel reserves ten percent of initial  
 useable fuel per OPNAV Instruction 3710.7H.

(A) MILITARY POWER  
 (B) NORMAL POWER

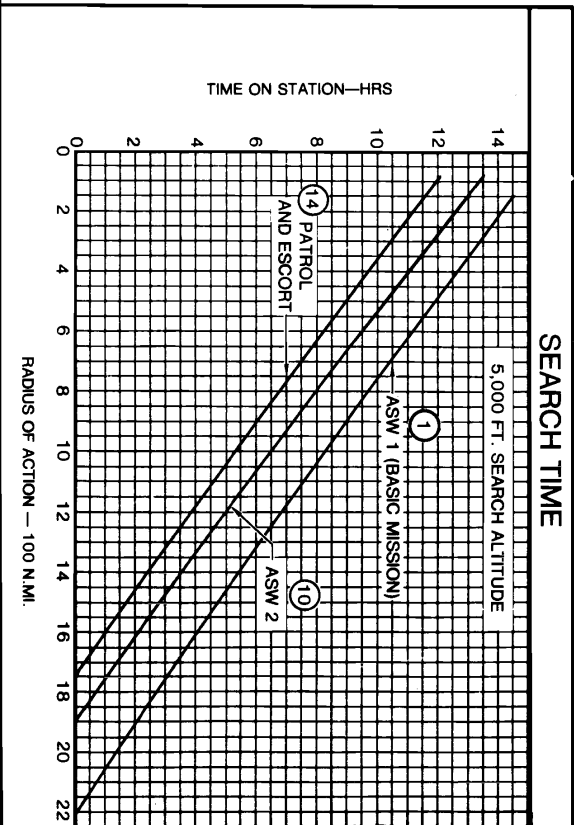
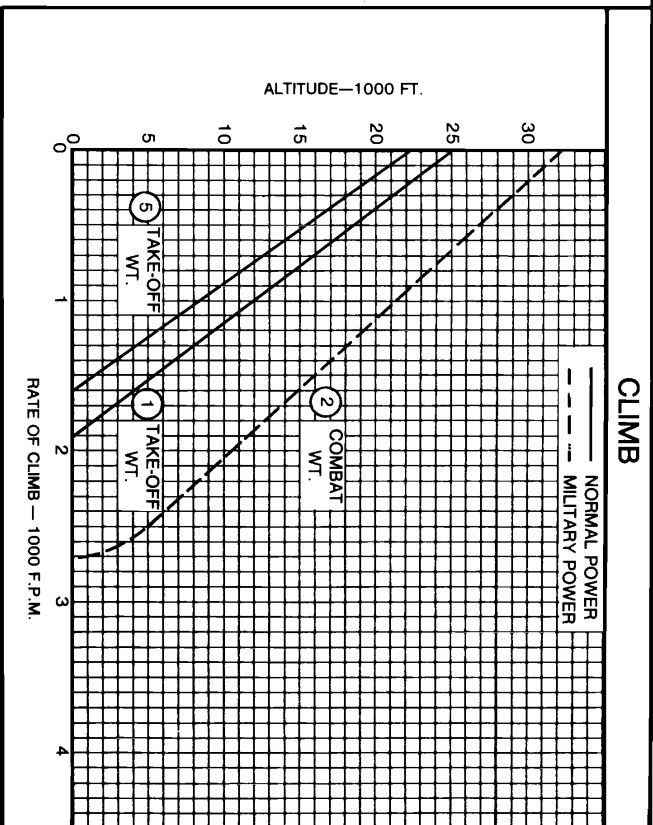
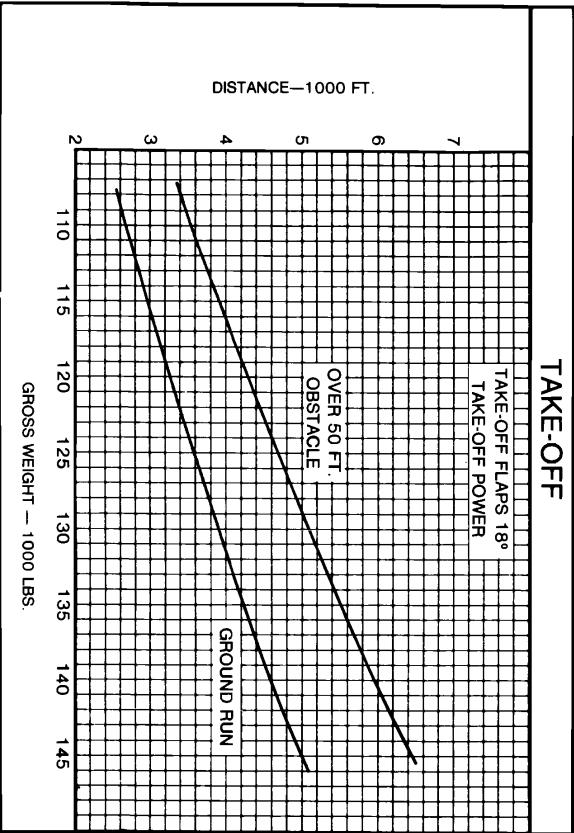
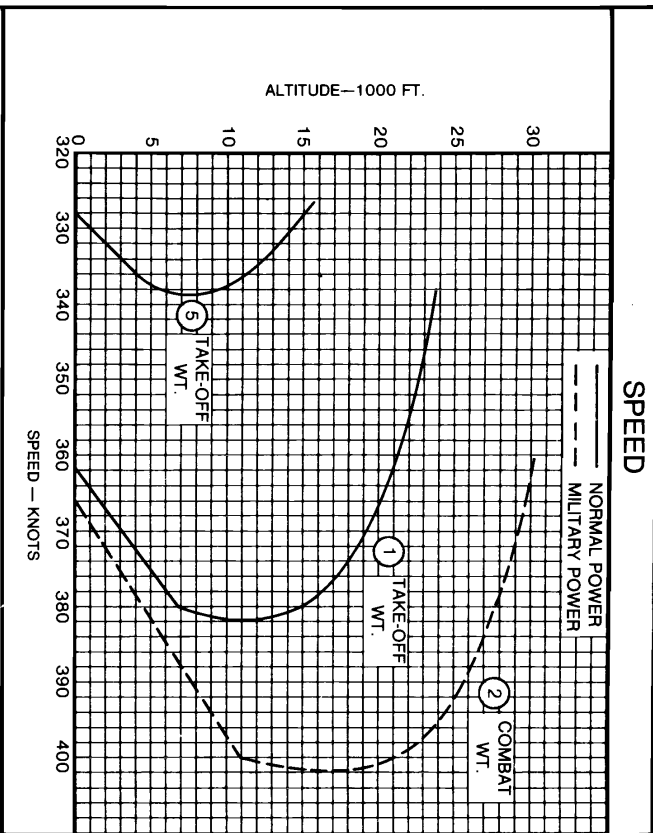
PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION	(10)	(12)	(14)	(16)
	4 MK-46/2 AGM-84A	6 MK-46	4 MK-46/4 AGM-84A	4 MK-46/4 AGM-84A
TAKE-OFF WEIGHT	139,760	139,467	139,760	139,760
Fuel (JP-5)	61,205	62,587	58,429	58,429
Payload	6,839	5,399	9,339	9,339
Wing loading	107.5	107.3	107.5	107.5
Stall speed—power-off	123	123	123	123
Take-off run at S.L.—calm	(A) 4,660	4,660	4,660	4,660
Take-off to clear 50 ft.—calm	(A) 6,100	6,030	6,140	6,140
Max. speed/altitude	(B) 370/10,000	383/10,500	358/9,000	358/9,000
Rate of climb at S.L.	(B) 1,780	1,830	1,700	1,700
Time: S.L. to 10,000 ft.	(B) 7.0	6.7	7.4	7.4
Time: S.L. to 20,000 ft.	(B) 20.9	19.2	22.8	22.8
Service ceiling (100 fpm)	(B) 23,300	24,000	22,400	22,400
Combat range	n.mi. 4,040	4,414	3,645	3,645
Average cruising speed	kn. 345	350	328	328
Cruising altitude(s)	ft. 20,900/30,500	22,500/32,100	20,100/29,300	20,100/29,300
Combat radius/mission time	n.mi./hr. 1,370/12.3	1,545/13.2	1,280/11.5	680/11.7
Average cruising speed	kn. 334	344	353	242
Search time(s)/altitude(s)	hr./ft. 2/20,000; 2/200	3/20,000; 1/200	2/5,000; 2/200	4/1,500; 2/200
Search speed(s)	kn. 277/195	273/192	220/196	211/199
<b>COMBAT LOADING CONDITION</b>	<b>(11)</b>	<b>(13)</b>	<b>(15)</b>	<b>(17)</b>
	STORES RETAINED	STORES RETAINED	STORES RETAINED	STORES RETAINED
COMBAT WEIGHT	115,278	114,432	116,388	116,388
Engine power	MILITARY	MILITARY	MILITARY	MILITARY
Fuel	36,723	37,552	35,057	35,057
Combat speed/combat altitude	kn./ft. 387/20,000	402/20,000	367/5,000	351/1,500
Rate of climb/combat altitude	fpm/ft. 1,020/20,000	1,120/20,000	2,210/5,000	2,380/1,500
Combat ceiling (500 fpm)	ft. 26,000	27,000	25,000	25,000
Rate of climb at S.L.	fpm. 2,540	2,640	2,430	2,430
Max. speed at S.L.	kn. 359	370	351	351
Max. speed/altitude	kn./ft. 390/15,000	404/15,000	379/15,000	379/15,000
<b>LANDING WEIGHT</b>				
Fuel	84,676	83,139	87,174	87,174
Stall speed—power-off/approach power	lb. 6,121	6,259	5,843	5,843
Stall speed—ground/roll/over 50 ft. obst.	kn./kn. 89/83	88/82	90/84	90/84
Landing distance—ground/roll/over 50 ft. obst.	ft./ft. 1,540/2,250	1,520/2,240	1,650/2,350	1,650/2,350

NOTES

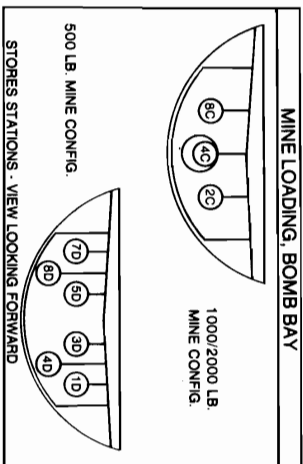
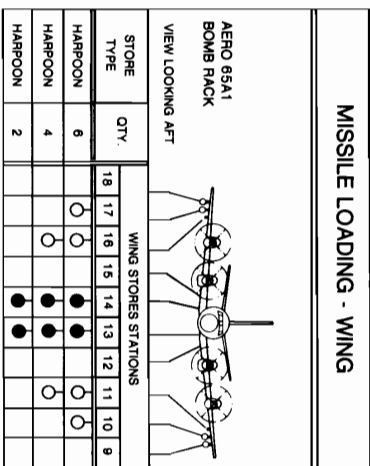
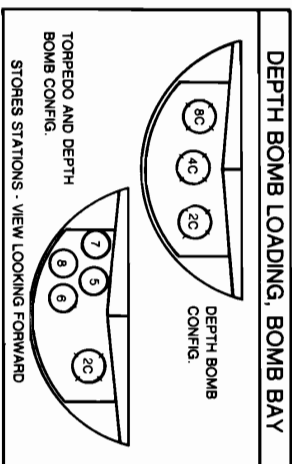
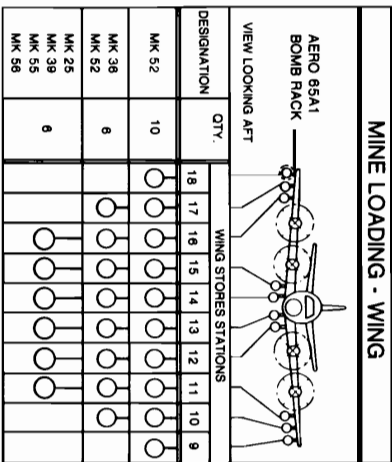
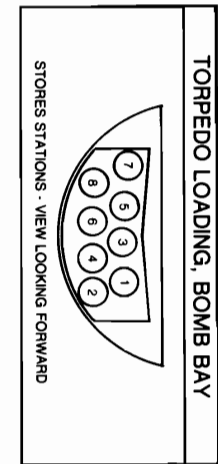
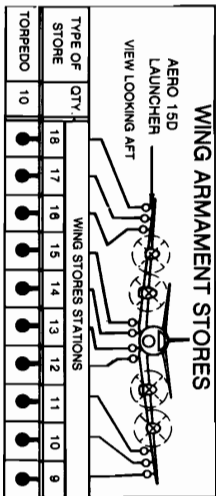
- (A) MILITARY POWER
- (B) NORMAL POWER

PERFORMANCE BASIS: Flight tests.  
 RANGE AND/OR RADIUS: Fuel reserves ten percent of initial useable fuel per OPNAV Instruction 3710.7H.



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ARMAMENT

ARMAMENT

STORE LOADING (A)

WING STATION NO.	9 & 18	10 & 17	11 & 16	12 & 15	13 & 14	INTERNAL		
MINES	(1) MK-53 — — — — —	(1) MK-53 (1) MK-36 (1) MK-52 — — —	(1) MK-53 (1) MK-36 (1) MK-52 (1) MK-25 (1) MK-55 (1) MK-56	(1) MK-53 (1) MK-36 (1) MK-52 (1) MK-25 (1) MK-55 (1) MK-56	(1) MK-53 (1) MK-36 (1) MK-52 (1) MK-25 (1) MK-55 (1) MK-56	(6) MK-53 (3) MK-36 (3) MK-52 (1) MK-25 (1) MK-55 (1) MK-56 (8) MK-41 (PRACTICE MINES)		
	(1) MK-44 (1) MK-46	(1) MK-44 (1) MK-46	(1) MK-44 (1) MK-46	(1) MK-44 (1) MK-46	(1) MK-44 (1) MK-46	(8) MK-44 (8) MK-46		
		(1) AGM-84A	(1) AGM-84A	—	(1) AGM-84A	—		
DEPTH BOMBS	— — —	— — —	— — —	— — —	— — —	(3) B-57		
PARACHUTE FLARES (C)	(1) MK-5 (1) MK-6 (1) MK-24 (6) MK-5 (6) MK-6 (6) MK-24	(1) MK-5 (1) MK-6 (1) MK-24 (6) MK-5 (6) MK-6 (6) MK-24	(1) MK-5 (1) MK-6 (1) MK-24 — — —	(1) MK-5 (1) MK-6 (1) MK-24 — — —	(1) MK-5 (1) MK-6 (1) MK-24 — — —	— — — — —		
ROCKET LAUNCH (D)	(1) LAU 10/A (1) LAU 10A/A (1) AERO 6A (1) AERO 7D (1) LAU 3A/A (1) LAU 32A/A (1) LAU 89/A							
			NOTES: SEE NEXT PAGE FOR NOTES (A) THRU (E).					



STORE LOADING

WING STATION NO.	9 & 18	10 & 17	11 & 16	12 & 15	13 & 14	INTERNAL
BOMBS AND PRACTICE BOMBS	A/A37B-3 PMBR with MK-76 or MK-106 Practice Bombs	A/A37B-3 PMBR with MK-76 or MK-106 Practice Bombs	A/A37B-3 PMBR with MK-76 or MK-106 Practice Bombs	A/A37B-3 PMBR with MK-76 or MK-106 Practice Bombs	A/A37B-3 PMBR with MK-76 or MK-106 Practice Bombs	(8) AN-M30A1 (8) AN-M57A1 (4) AN-M64A1 (8) MK-82 (8) MK-83 (8) MK-15 (4) MK-23
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MISCELLANEOUS	--	--	--	(1) ALQ-78 (E)	(1) Starter Pod GTC 85-15	--

- NOTES:
- (A) Only individual station maximum capabilities are listed. Combinations of stores could result in interference between stores. Refer to NAVAIR 01-75PAC-1 for additional information.
  - (B) All externally carried torpedoes are for ferry only. No tactical drops, no arming wires or lanyards attached.
  - (C) 8 MK-5, MK-6 or MK-24 Parachute Flares are mounted on the A/A37B-3 PMBR or A/A37B-1 MBR.
  - (D) Not a complete list. Refer to publications called out in (A) above for additional data.
  - (E) ALQ-78 authorized for wing station 12 only.

NOTES

ASW1

(Basic Mission)

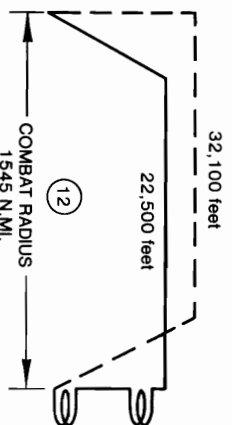
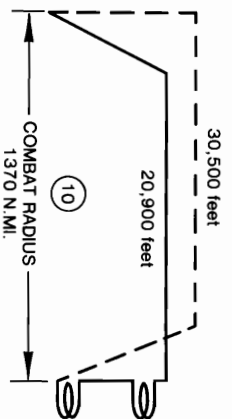
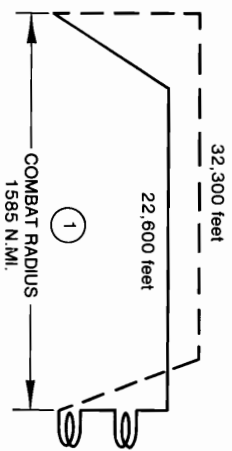
- WARM-UP, TAXI, TAKE-OFF: 5 minutes with maximum continuous power at sea level.
- CLIMB: On course with normal power to 22,600 feet cruise altitude, limited to cruise ceiling.
- CRUISE-OUT: At 22,600 feet at speed for maximum range.
- DESCEND: To 20,000 feet — No fuel is used; No distance is gained.
- SEARCH: At 20,000 feet for 3 hours at the speed for maximum endurance.
- DESCEND: To 200 feet — No fuel is used; No distance is gained.
- SEARCH: At 200 feet for 1 hour at the speed for maximum endurance.
- CLIMB: On course with normal power to 32,300 feet cruise altitude, limited to cruise ceiling.
- CRUISE-IN: At 32,300 feet at the speed for maximum range.
- RESERVE: 10% of the initial fuel load.

ASW2

- WARM-UP, TAXI, TAKE-OFF: 5 minutes with maximum continuous power at sea level.
- CLIMB: On course with normal power to 20,900 feet cruise altitude, limited to cruise ceiling.
- CRUISE-OUT: At 20,900 feet at speed for maximum range.
- DESCEND: To 20,000 feet — No fuel is used; No distance is gained.
- SEARCH: At 20,000 feet for 2 hours at the speed for maximum endurance.
- DESCEND: To 200 feet — No fuel is used; No distance is gained.
- SEARCH: At 200 feet for 2 hours at the speed for maximum endurance.
- CLIMB: On course with normal power to 30,500 feet cruise altitude limited to cruise ceiling.
- CRUISE-IN: At 30,500 feet at the speed for maximum range.
- RESERVE: 10% of the initial fuel load.

MAXIMUM INTERNAL

- WARM-UP, TAXI, TAKE-OFF: 5 minutes with maximum continuous power at sea level.
- CLIMB: On course with normal power to 22,500 feet cruise altitude, limited to cruise ceiling.
- CRUISE-OUT: At 22,500 feet at speed for maximum range.
- DESCEND: To 20,000 feet — No fuel is used; No distance is gained.
- SEARCH: At 20,000 feet for 3 hours at the speed for maximum endurance.
- DESCEND: To 200 feet — No fuel is used; No distance is gained.
- SEARCH: At 200 feet for 1 hour at the speed for maximum endurance.
- CLIMB: On course with normal rated power to 32,100 feet cruise altitude, limited to cruise ceiling.
- CRUISE-IN: At 32,100 feet at the speed for maximum range.
- RESERVE: 10% of the initial fuel load.



○ LOADING CONDITION COLUMN NUMBER

NOTES

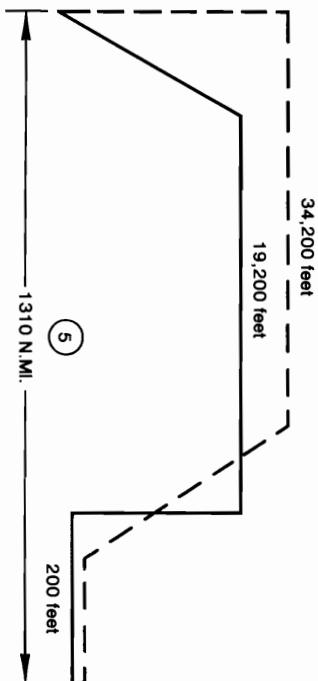
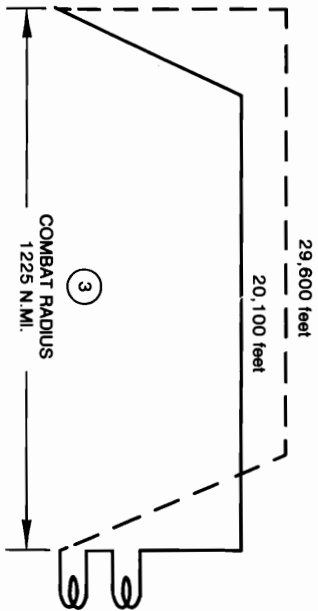
RECONNAISSANCE

- WARM-UP, TAXI, TAKE-OFF: 5 minutes with maximum continuous power at sea level.
- CLIMB: On course with normal power to 20,100 feet cruise altitude, limited to cruise ceiling.
- CRUISE-OUT: At 20,100 feet at speed for maximum range.
- DESCEND: To 5,000 feet — No fuel is used: No distance is gained.
- SEARCH: At 5,000 feet for 3 hours at the speed for maximum endurance.
- DESCEND: To 200 feet — No fuel is used: No distance is gained.
- SEARCH: At 200 feet for 1 hour at the speed for maximum endurance.
- CLIMB: On course with normal power to 29,600 feet cruise altitude, limited to cruise ceiling.
- CRUISE-IN: At 29,600 feet at the speed for maximum range.
- RESERVE: 10% of the initial fuel load.

MINELAYING

- WARM-UP, TAXI, TAKE-OFF: 5 minutes with maximum continuous power at sea level.
- CLIMB: On course, with normal power to 19,200 feet cruise altitude, limited to cruise ceiling.
- CRUISE-OUT: At 19,200 feet at speed for maximum range.
- DESCENT: To 200 feet — No fuel is used: No distance is gained.
- PENETRATE: 300 n.mi. at 200 feet with maximum continuous power.
- ATTACK: 100 n.mi. at 200 feet with maximum continuous power.
- RELEASE MINES:
- ESCAPE: On course at 200 feet with maximum continuous power for 300 n.mi.
- CLIMB: On course with normal power to 34,200 feet cruise altitude, limited to cruise ceiling.
- CRUISE-IN: At 34,200 feet at the speed for maximum range.
- RESERVE: 10% of the initial fuel load.

○ LOADING CONDITION COLUMN NUMBER



NOTES

ELECTRONICS (cont)

Non-Acoustical Sensor Data

ESM Set	AN/ALQ-78A
Radar	AN/APS-115B
IFF	AN/APX-72
SIF	AN/APX-76A(V)
SAD	AN/ASA-64A
Compensator	AN/ASA-65(V)2
Compensator	AN/ASA-65(V)5
MAD	AN/ASQ-81(V)2
IRDS	AN/AAS-36
IRDS Video Recorder Group	OA-8962/ASH
Display Group, Tactical Aux (TADS)	OD-159/A

Acoustical Sensor Data

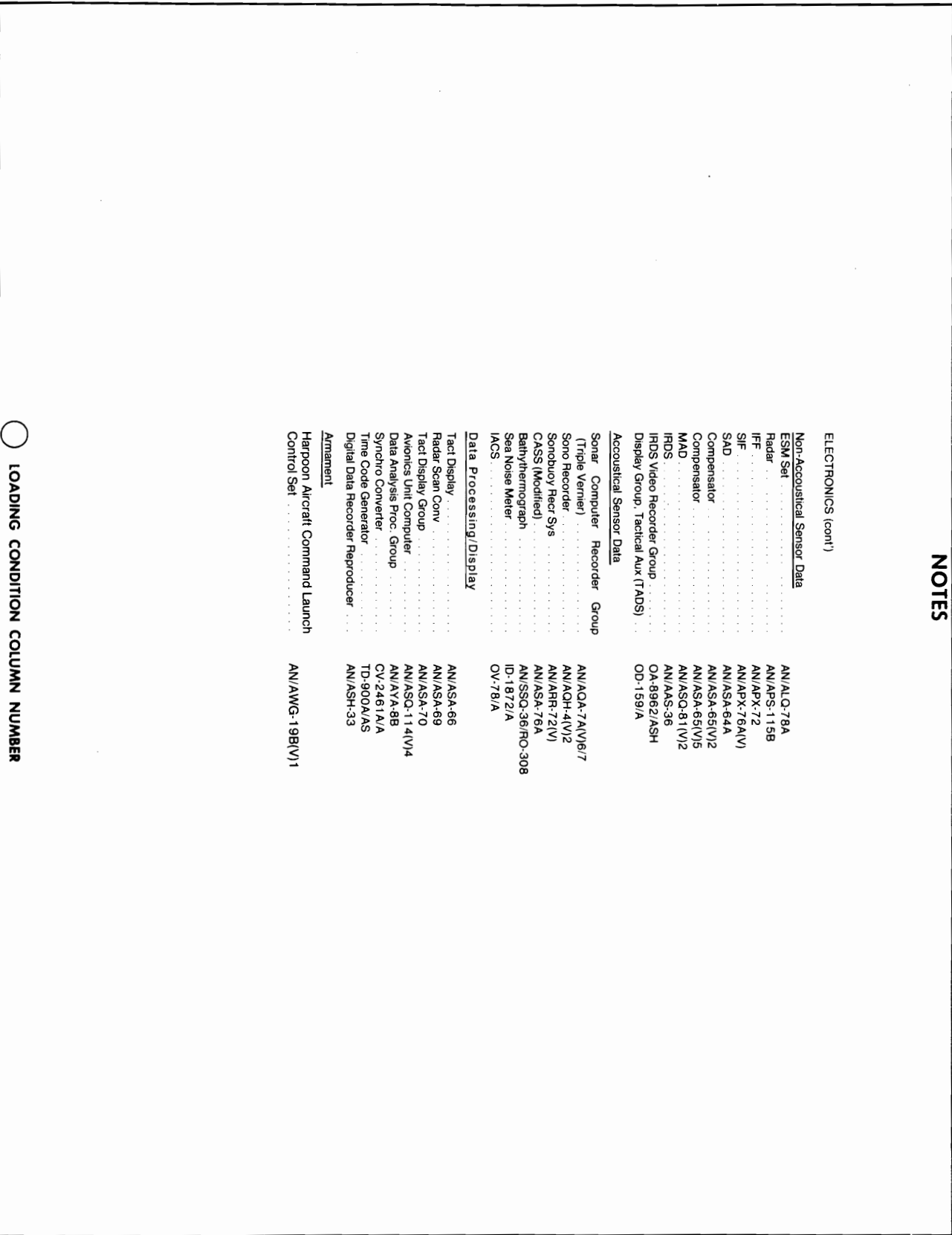
Sonar Computer Recorder Group (Triple Vernier)	AN/AQA-7A(V)6/7
Sono Recorder	AN/AQH-4(V)2
Sonobuoy Recr Sys	AN/ARR-72(V)
CASS (Modified)	AN/ASA-76A
Bathymetograph	AN/SSQ-36/RO-308
Sea Noise Meter	ID-1872/A
IACS	OV-78/A

Data Processing/Display

Tact Display	AN/ASA-66
Radar Scan Conv	AN/ASA-69
Tact Display Group	AN/ASA-70
Avionics Unit Computer	AN/ASQ-114(V)4
Data Analysis Proc. Group	AN/ATA-8B
Synchro Converter	CV-2461A/A
Time Code Generator	TD-900A/AS
Digital Data Recorder Reproducer	AN/ASH-33

Armament

Harpoon Aircraft Command Launch Control Set	AN/AWG-19B(V)1
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LOADING CONDITION COLUMN NUMBER