

**AIR OPERATIONS TABLES
PACIFIC: JUNE – DECEMBER 1940**

Changes from 1942 Values. All 1942 values apply, unless specifically changed or supplemented by these.

**STRIKES LOCATING TARGETS AND RETURNING
PACIFIC: JUNE – DECEMBER 1940**

Search ranges and speeds:

Aircraft:	Range:	Speed:	Endurance:
B4Y1 unarmed	5	Normal	24
B5N1 unarmed	5	Normal	31
B5N2 unarmed	5	Normal	27
E8N2 unarmed	5	Slow	33
E7K2 unarmed	4	Slow	15
E13A1 unarmed	5	Normal	28
SBC-3 w/ 500 lb	5	Normal	16
SBC-4 w/ 500 lb	5	Normal	15
SB2U-1 or -2 with 500 lb	5	Normal	14

Range in hexes, endurance in turns.

Strike Sighting Table. Strikes may not attack task force targets until they sight them, rolling **1D10** and using this table:

Distance	0-2	3-4	5-6	7-10	11+
Roll for sighting attempts	8	6	4	3	2
Roll to return	1	2	3	4	5

Strike Return Table. Before homing navigation aids became common, carrier strikes were always threatened with the possibility that they might not find their carriers on their return flight. When carrier strikes return to their carriers, roll **1D6** and consult the table below to see if they spot their carrier. Continue to roll each turn until the carrier is spotted or the strike aircraft run out of endurance.

Distance from Target to Carrier:	0-1 hexes	2-3 hexes	4-5 hexes	6+ hexes
Die Roll to Sight:	6	5	4	3

Modifiers to chance of sighting: **-1** if single seat aircraft only
 -1 if cloudy over carrier
 -2 if stormy over carrier
 +3 if strike against land target

but the chance is **never less than 1.**

CAP ATTACK TABLES
PACIFIC: JUNE – DECEMBER 1940

Follow these steps when CAP attacks strike aircraft.

Allocation of escorts. The strike player secretly allocates escorts among the strike aircraft at the time that the strike is launched. Each escort AF is allocated to one of the strike groups present in a strike.

Number of CAP intercepting. The CAP player declares the number of CAP AF that will try to intercept a particular strike. Roll for each factor to see if it attacks. CAP that attempts to attack one strike but fails may attempt to attack other strikes in the same or subsequent game turns.

Base values: **7** for US CAP other than F4Fs and F2As
 8 for F4Fs and F2As
 8 for IJN CAP other than A6Ms
 9 for A6Ms

Modifiers: **-1** for CAP vectored from another task force in the same hex with the task force being attacked
 -1 for US CAP in twilight
 -3 for NK CAP in twilight
 -3 for NK CAP over ships unless at least 6 ships of formation are in the outer AA ring

Strike Composition. For US CAP, the CAP player rolls **D6**. On a roll of **1**, the strike player must announce whether the strike contains level bombers, dive bombers, or torpedo bombers. The strike player must announce whether each type is present, but does not reveal the number of each type present.

CAP intercept assignments. Once the number of CAP AFs engaging is determined, the CAP player designates the number of CAP AFs engaging (respectively), dive bombers, level bombers, and torpedo bombers. The CAP player does this without knowing the composition of the striking player's strike.

CAP fighting escorts. The strike player reveals the types of striking aircraft (dive bombers, torpedo bombers, and level bombers) but not the number of each type or the number of escort AFs with each type. The CAP player may announce that some or all of the CAP AFs assigned to attack level or dive bombers will attack torpedo bombers instead. The CAP player keeps these CAP AFs separate, as they will have a reduced chance of engaging the torpedo bombers before they attack. For CAP attacking strike aircraft with escorts, the strike player rolls for each escort AF to see if it engages a CAP AFs.

Base value: **7** for NK escorts engaging USN CAP
 8 for USN escorts engaging NK CAP

CAP AFs fighting escorts do not fight strike aircraft.

CAP and escorts fight immediately, rolling simultaneously against their air-to-air values to shoot down opposing aircraft on the Hit Determination Table. Roll against the adjusted attack value for each attacking AF. Each hit knocks down one enemy AF. Losses are taken immediately.

CAP fighting strike aircraft. Next, the striking player reveals whether the strike includes dive bombers, level bombers, or torpedo bombers. The CAP player rolls on the Hit Determination Table for each CAP AF that was allocated to attack a type of strike aircraft present in the strike. Each successful result indicates that the CAP factor attacks a strike AF of the appropriate type before the strike AF attacks its ship or land targets. CAP AFs allocated to intercept level bombers may make this roll for any dive bombers present in the strike, and vice versa

Base values: **5** for CAP engaging dive bombers or level bombers
 6 for CAP engaging torpedo bombers

Modifiers: **-3** if the striker is an armed searcher
 -3 if the CAP is committed from another task force in the same hex
 -1 for USN CAP launched in the turn immediately before the turn of the strike or on the turn of the strike, and is attempting to intercept torpedo bombers
 -3 if the CAP was launched in the turn immediately before the turn of the strike or on the turn of the strike, and is attempting to intercept dive or level bombers
 -3 if the CAP was allocated to attack dive or level bombers but is attacking torpedo bombers instead

The CAP player and the strike player roll simultaneously against their respective air-to-air values to shoot down opposing aircraft.

The strike aircraft then attack their ship or land targets, rolling for hits and taking losses from anti-aircraft fire.

After the strike aircraft have attacked, the CAP player attacks the strike AFs with any CAP that has rolled successfully to engage but has not yet fought. This CAP may attack any strike aircraft factors that the owning player wishes.

All CAP factors that engage the enemy must land, rearm, and either launch or be designated as held on deck before they can fight again. CAP combat is considered to last throughout the turn in which a strike occurs.

CAP endurance and depletion. The CAP player reduces the endurance of any CAP AF that fought by 1. The CAP player rolls on the Hit Determination Table for each CAP AF that fought to see if the CAP AF is depleted. A depleted USN CAP AF may take no further part in CAP combat. A depleted NK CAP AF engages in any further CAP combat with a -6 modifier to its air-to-air attack values.

Base values: **8** for all F4F and F2A CAP
 9 for A6M CAP

No other CAP depletes.

**AIRCRAFT ATTACK VALUES
PACIFIC: JUNE – DECEMBER 1940**

Attacker▼	F4F-3	F2A-2	F2F	F3F	P-36	SBC SB2U BT	TBD	B-17	B-18 B-23
A5M CAP	1	1	1	1	1	4	4	-6	-3
A5M Escort	0	0	0	0	0	4	N	N	N
A6M CAP	8	8	8	8	8	6	6	0	7
A6M Escort	7	7	7	7	7	N	N	N	N
D1A CAP	-1	-1	-1	-1	-1	2	2	-8	-5
D3A CAP	1	1	1	1	1	4	4	-6	-3

Attacker▼	A6M	A5M	D1A	D3A	B4Y	B5N	G3M
F4F CAP	8	8	8	7	9	8	5
F4F Escort	7	7	7	7	N	N	N
F3A CAP	6	6	6	5	7	6	3
F3A Escort	5	5	5	5	N	N	N
F3F CAP	4	4	4	3	5	4	1
F3F Escort	3	3	3	3	N	N	N
F2F CAP	2	2	2	1	3	2	-1
F2F Escort	1	1	1	1	N	N	N
P-36 CAP	5	5	5	4	6	5	2
P-36 Escort	4	4	4	4	N	N	N

Left column is type of aircraft attacking. Top row is type of aircraft being attacked. Number is hit number used by attacking aircraft. "Defensive Guns" refers to strike aircraft fighting defensively. "N" indicates no effect.

**AA FIRE VALUES
PACIFIC: JUNE – DECEMBER 1940**

Only USN ships resolve AA fire. For IJN ships, those capable of AA fire prevent attacking aircraft from applying a favorable modifier to their attacks.

AA fire versus dive bombers:

Roll for each attacking AF before strike AF attack, based on the number of AA factors firing. AA factors committed to firing against dive bombers may engage all dive bomber AFs attacking in a turn. Reduce to **1/4** the value of all AA factors committed by screening ships. If FOTW rules are being used, a ship must be within 2.5 inches of the target ship for it to act as a screening ship.

AA Factors:	1-2	2.25-4	4.25-6	6.25-8	8.25-10	10.25-12	12.25-15	15.25-19	19.25-24	24.25-30	30.25+
HDT Value:	-5	-3	0	1	2	3	4	5	6	7	8

AA fire versus torpedo and level bombers:

AA factors not committed against dive bombers in an ASP may be fired at attacking torpedo or level bombers. Resolve the fire at the Hit Determination Value shown below, rolling once for every AA point committed. As with AA fire against dive bombers, reduce to **1/4** the number of AA factors committed by screening ships. The firing player may increase the relevant value below by **3** in exchange for making rolls equal to **1/2** the number of adjusted AA factors.

Time Period:	Value on Hit Determination Table:
6/1/1940-12/31/1940	-2

The following modifiers apply to all AA fire:

HDT Value Modifiers:	Modifier:
Firing in twilight	-3
Firing at night	-6
Firing versus level bombers	-6

Note: arcs of bearing are ignored for AA weapons. In the course of an attack, aircraft are presumed either to pass through all weapons arcs or to expose themselves to prolonged fire in one arc.

CAP and AA. If CAP follows strike aircraft into their attacks, roll for each loss inflicted on the strike aircraft by AA at a Hit Determination Table value of 0. A successful roll means that a CAP AF was shot down rather than the strike AF.

**AIRCRAFT LOADS AND ENDURANCE
PACIFIC: JUNE – DECEMBER 1940**

Aircraft Type	Load	Nihon Kaigun		
		Missions	Endurance	Cruise/turn
A5M4	35 ig drop tank	F	12	Normal
A6M2	Clean	F	20	Fast
A6M2	77ig drop tank	F	34	Fast
D1A2	551lb bomb	D	12	Normal
D3A1	551lb bomb	F*, D	24	Normal
B4Y1	Unarmed	S	24	Normal
B4Y1	1 x 17.7" torpedo	T	19	Normal
B4Y1	2 x 551lb bombs	L	22	Normal
B5N1	Unarmed	S	31	Normal
B5N1	17.7" torpedo	T	24	Normal
B5N1	6 x 112lb bombs	L	29	Normal
B5N1	1760lb bomb	L	27	Normal
B5N2	Unarmed	S	27	Normal
B5N2	17.7" torpedo	T	21	Normal
B5N2	6 x 112lb bombs	L	26	Normal
B5N2	1760lb bomb	L	24	Normal
F1M2	Clean	F	10	Normal
E8N2	Clean	S	16	Slow
E7K2	Clean	S	33	Slow
E13A1	Clean	S	28	Normal
H6K4	Clean	S	65	Normal
H6K4	2 x 17.7" torpedoes	T	32	Normal
G3M2m22	Clean	S	33	Fast
G3M2m22	1 x 17.7" torpedo	T	16	Fast
G3M2m22	2 x 551lb bomb	L	25	Fast

Fighters, dive bombers and torpedo bombers use an additional turn of endurance in the turn in which they attack. . Missions: F = fighter, F* = fighter (CAP only), S = search, D = dive bomber, T = torpedo bomber, L = level bomber

**AIRCRAFT LOADS AND ENDURANCE
PACIFIC: JUNE – DECEMBER 1940**

		USN, USMC, USAAF		
F2A-1	Clean	F	17	Normal
F2F-1	Clean	F	15	Normal
F3F-1	Clean	F	17	Normal
F3F-2	Clean	F	16	Normal
F3F-3	Clean	F	15	Normal
F4F-3	Clean	F	13	Normal
SBC-3	1 x 500lb bomb	S, D	16	Normal
SBC-4	1 x 500lb bomb	S, D	15	Normal
SBC-4	1 x 1000lb bomb	D	11	Normal
SB2U-1	1 x 500lb bomb	S, D	14	Normal
SB2U-1	1 x 1000lb bomb	D	11	Normal
SB2U-2	1 x 500lb bomb	S, D	14	Normal
SB2U-2	1 x 1000lb bomb	D	11	Normal
BT-1	1 x 500lb bomb	S, D	14	Normal
BT-1	1 x 1000lb bomb	D	11	Normal
TBD-1	22" torpedo	T	14	Normal
TBD-1	12 x 100lb bombs	L	17	Normal
TBD-1	2 x 500lb bombs	L	20	Normal
PBY-5	Clean	S	41	Normal
P-36A	Clean	F	14	Normal
P-36C	Clean	F	13	Normal
B-17B	4 x 500lb bombs	L	39	Fast
B-18A	4 x 500lb bombs	L	25	Normal
B-23	4 x 500lb bombs	L	35	Fast

Fighters, dive bombers and torpedo bombers use an additional turn of endurance in the turn in which they attack. Missions: F = fighter, F* = fighter (CAP only), S = search, D = dive bomber, T = torpedo bomber, L = level bomber

*Treat as an 18" torpedo for damage purposes.

HIT RESOLUTION TABLES (D100)

Hit Numbers 10 to 18

10	11	12	13	14	15	16	17	18
1	1+4	1+8	2	2+7	3+2	4	5	6+5

Top number is hit number. Left bottom number is number of hits per mount automatically scored. Right bottom number (if any) is hit number for 1 additional hit per mount.

Hit Numbers -7 to 9

	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	
1	1	02	03	03	04	05	06	08	10	13	15	20	25	30	40	50	65	80
2	1	04	05	06	08	10	12	15	19	24	28	36	44	51	64	75	88	96
	2							01	01	02	02	04	06	09	16	25	42	64
3	1	06	08	09	12	14	17	22	27	34	39	49	58	66	78	88	95	99
	2					01	01	02	03	05	06	10	16	22	35	50	71	96
	3											01	02	03	06	12	27	64
4	1	08	10	11	15	19	22	28	34	43	48	59	68	76	87	94	98	**
	2			01	01	01	02	03	05	08	11	18	26	35	52	69	87	97
	3									01	01	03	05	08	18	31	56	82
	4													01	03	06	18	41
5	1	10	11	14	18	23	27	34	41	50	56	67	76	83	92	97	**	**
	2		01	01	01	02	03	05	08	13	16	26	37	47	66	81	95	99
	3								01	02	03	06	10	16	32	50	77	94
	4											01	02	03	09	19	43	74
	5														01	03	12	33
6	1	11	13	17	22	26	31	39	47	57	62	74	82	88	95	98	**	**
	2	01	01	01	02	03	05	08	11	18	22	34	47	58	77	89	98	**
	3							01	02	03	05	10	17	26	46	66	88	98
	4										01	02	04	07	18	34	65	90
	5													01	04	11	32	66
	6															02	08	26
7	1	13	16	19	25	30	35	44	52	62	68	79	87	92	97	99	**	**
	2	01	01	02	03	04	06	10	15	23	28	42	56	67	84	94	99	**
	3						01	01	03	05	07	15	24	35	58	77	94	**
	4									01	01	03	07	13	29	50	80	97
	5												01	03	10	23	53	85
	6														02	06	23	58
	7															01	05	21

Compute and roll for hits based on numbers of gun mounts firing (or torpedoes launched). Row is percentage chance of hitting, left-most column is number of mounts firing, second left column is number of rounds hitting. Roll indicated number or less on D100 to score indicated number of hits based on number of mounts firing and percentage chance of each mount hitting. For ships with different numbers of guns per mount, make one roll for each type of mount. For torpedoes, roll mount by mount, based on the number of torpedoes fired from the mount

Hit Numbers of -20 to -8

	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8
1								01	01	01	01	01	02
2					01	01	01	01	01	02	02	03	03
3				01	01	01	01	02	02	02	03	04	05
4		01	01	01	01	01	02	02	02	03	04	05	06
5	01	01	01	01	01	02	02	03	03	04	05	06	08
6	01	01	01	01	02	02	02	03	04	05	06	08	09
7	01	01	01	01	02	02	03	04	04	06	07	09	11

Only one hit is possible. Left-most column is number of mounts firing (or torpedoes launched).

**AIRCRAFT LOADS AND ENDURANCE
PACIFIC: JUNE – DECEMBER 1940
(WITH RESEARCHED RANGES)**

Nihon Kaigun

Aircraft Type	Load	Endurance	Cruise/turn
A5M4	Clean	12	40 nm
A6M2	Clean	20	50 nm
A6M2	77ig drop tank	34	50 nm
D1A2	550lb bomb	12 500 nm	40 nm
D3A1	550lb bomb	24	35 nm
B4Y1	Clean	24 850 nm	35 nm
B4Y1	1 x 17.7" torpedo	19	35 nm
B4Y1	2 x 550lb bombs	22	35 nm
B5N1	Unarmed	31 590/1220 nm	40 nm
B5N1	17.7" torpedo	24	40 nm
B5N1	1760lb bomb	27	40 nm
B5N2	Unarmed	27 528/1075 nm	40 nm
B5N2	17.7" torpedo	21	40 nm
B5N2	1760lb bomb	24	40 nm
F1M2	Clean	10	40 nm
E8N2	Clean	16	30 nm
E7K2	Clean	33	30 nm
E13A1	Clean	28	40 nm
H6K4	Clean	65	40 nm
H6K4	2 x 17.7" torpedoes	32	40 nm
G3M2m22	Clean	33	50 nm
G3M2m22	1 x 17.7" torpedo	16	50 nm
G3M2m22	2 x 550lb bomb	25	50 nm

Fighters, dive bombers and torpedo bombers use an additional turn of endurance in the turn in which they attack.

**AIRCRAFT LOADS AND ENDURANCE
PACIFIC: JUNE – DECEMBER 1940
(WITH RESEARCHED RANGES)**

		USN, USMC, USAAF	
F2A-1	Clean	17 1095 sm	40 nm
F2F-1	Clean	15 985 sm 867 nm	40 nm
F3F-1	Clean	17	40 nm
F3F-2	Clean	16	40 nm
F3F-3	Clean	15 980 sm 862 nm	40 nm
F4F-3	Clean	13 845 sm 744 nm	40 nm
SBC-3	1 x 500lb bomb	16	35 nm
SBC-4	1 x 500lb bomb	15 590 sm 519 nm	35 nm
SBC-4	1 x 1000lb bomb	11	35 nm
SB2U-1	1 x 500lb bomb	14 635 sm	40 nm
SB2U-1	1 x 1000lb bomb	11	40 nm
SB2U-2	1 x 500lb bomb	14 630 sm	40 nm
SB2U-2	1 x 1000lb bomb	11	40 nm
BT-1	1 x 500lb bomb	14	40 nm
BT-1	1 x 1000lb bomb	11	40 nm
BT-1	Clean	1120 sm 986 nm	40 nm
TBD-1	22" torpedo	14	35 nm
TBD-1	3 x 500lb bombs	17	35 nm
PBY-5	Clean	41	35 nm
P-36A	Clean	14	40 nm
P-36C	Clean	13 820 sm	40 nm
B-17B	4 x 500lb bombs	39 3101 sm	50 nm
B-18A	4 x 500lb bombs	25 1150sm	40 nm
B-23	4 x 500lb bombs	35 1400 w/4000lb	50 nm

Fighters, dive bombers and torpedo bombers use an additional turn of endurance in the turn in which they attack.

*Treat as an 18" torpedo for damage purposes.