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TABLE 18. CONDENSED MONTHLY DATA ON OPERATIONS AND RESULTS,
NAVAL AND MARINE LAND-BASED AIRCRAFT
By Operational Theatre and by Type of Aircraft

A. SOUTH PACIFIC THEATRE

MONTH	VF			VSB - VTB			VPB		
	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ENEMY AIRCRAFT DESTROYED IN COMBAT	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ENEMY AIRCRAFT DESTROYED IN COMBAT	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ENEMY AIRCRAFT DESTROYED IN COMBAT
1942-May	0	0	0	0	0	0	4	3	0
June	0	0	0	0	0	0	2	2	0
August	57	0	52	31	12	0	1	0	2
September	259	0	111	247	73	0	1	0	0
October	478	0	164	360	155	13	0	0	0
November	175	0	70	431	184	7	0	0	0
December	40	0	17	291	83	2	2	0	0
1943-January	84	0	52	310	97	2	0	0	0
February	10	0	15	386	173	6	33	75	0
March	8	0	0	316	178	1	34	33	0
April	197	0	46	240	152	0	8	7	0
May	116	0	15	331	226	0	5	0	0
June	237	0	128	488	305	0	11	10	0
July	525	0	174	2,555	1,633	6	45	31	6
August	414	0	108	689	398	0	19	22	1
September	599	0	97	951	563	2	88	36	7
October	456	0	64	999	595	0	92	86	5
November	915	0	86	1,723	1,101	0	110	46	9
December	690	0	94	1,978	1,260	0	75	18	2
1944-January	1,591	0	346	1,342	589	15	92	65	3
February	1,899	1	138	1,983	951	2	54	31	9
March	1,257	3	7	4,081	2,072	0	295	223	3
April	565	14	0	2,839	1,569	0	243	116	5
May *	524	4	0	2,348	1,225	0	228	115	3
June	538	74	1	838	393	0	184	84	1
1942 TOTAL	1,009	0	414	1,360	507	22	10	5	2
1943 TOTAL	4,251	0	879	10,966	6,681	17	520	364	30
1944 TOTAL	6,374	96	492	13,431	6,799	17	1,099	634	24
GRAND TOTAL	11,634	96	1,785	25,757	13,987	56	1,629	1,003	56

* South Pacific Theatre combat areas were placed under operational control of the Southwest Pacific area command on 16 June 1944. The figures here for June 1944 cover the entire month, and no division is practicable.

No action was reported during months not noted above.

NOTES TO TABLE 18

South Pacific combat activity has already been discussed, and will be covered in more detail in studying the Solomons-Bismarck area in later tables.

TABLE 18. Continued

B. SOUTHWEST PACIFIC THEATRE

MONTH	VF			VSB - VTB			VPB		
	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ENEMY AIRCRAFT DESTROYED IN COMBAT	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ENEMY AIRCRAFT DESTROYED IN COMBAT	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ENEMY AIRCRAFT DESTROYED IN COMBAT
1941-December							19	5	2
1942-January							13	0	1
February							6	0	1
September							2	0	0
1943-October							27	5	0
November							45	32	0
December							46	67	0
1944-January							43	37	0
February							28	28	0
March							43	45	0
April							33	25	5
May							7	2	4
June							25	6	13
July	1,486	431	0	1,095	585	0	273	150	4
August	2,343	725	0	1,074	515	0	312	170	2
September	2,041	593	0	1,348	620	0	449	232	1
October	2,192	681	0	1,405	663	0	458	301	6
November	2,278	593	0	644	285	0	772	587	6
December	1,001	239	54	152	74	0	881	729	34
1945-January	1,058	292	4	280	111	0	559	566	8
February	1,644	919	0	3,989	1,719	0	1,011	850	26
March	1,348	555	1	4,350	2,032	0	953	781	24
April	1,994	698	2	3,016	1,392	0	1,265	1,270	7
May	800	303	0	2,911	1,475	0	1,438	1,512	12
June	300	146	0	1,947	982	0	700	620	5
July	515	294	0	1,012	475	0	727	744	2
August	129	53	0	181	89	0	194	148	2
1941-43 TOTAL	0	0	0	0	0	0	158	109	4
1944 TOTAL	11,341	3,262	54	5,718	2,742	0	3,324	2,312	75
1945 TOTAL	7,788	3,260	7	17,686	8,275	0	6,847	6,491	86
GRAND TOTAL	19,129	6,522	61	23,404	11,017	0	10,329	8,912	165

NOTE: From 1 July 1944 the data include aircraft operating in the Solomons-Bismarcks area, transferred from the South Pacific command on 16 June 1944. 1941 and early 1942 figures cover activities by VPB of PatWing 10 before establishment of Southwest Pacific Command, in territory later assigned to that command.

No action was reported for months not shown above.

In the Southwest Pacific VPB were the sole naval aircraft until transfer of the South Pacific air force to this command in June 1944. From November 1943 to March 1944 these VPB were the celebrated PB4 Black Cats, on their nightly anti-shipping sweeps of the Bismarck Sea and New Guinea coast. Thereafter PB4Y and later PV search planes began to operate from SoWesPac bases, and by 1945 a major part of the land-based Naval air force was under SoWesPac control, and was shifted progressively westward and northward to meet the changing needs of that command's campaigns.

TABLE 18. Continued.

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C. CENTRAL PACIFIC THEATRE

MONTH	VF			VSB - VTB			VPB		
	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ENEMY AIRCRAFT DESTROYED IN COMBAT	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ENEMY AIRCRAFT DESTROYED IN COMBAT	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ENEMY AIRCRAFT DESTROYED IN COMBAT
1941-December	49	0	10	0	0	0	2	0	0
1942-March	4	0	1	0	0	0	0	0	0
May	0	0	0	0	0	0	2	0	0
June	27	0	15	45	15	6	14	3	0
October	0	0	0	0	0	0	1	0	0
1943-July	0	0	0	0	0	0	2	0	0
August	0	0	0	0	0	0	3	0	0
October	0	0	0	0	0	0	24	3	0
November	6	0	0	0	0	0	30	2	3
December	38	0	1	5	2	0	57	26	9
1944-January	0	0	0	0	0	0	200	159	6
February	0	0	0	0	0	0	211	116	0
March	476	67	8	404	175	0	247	234	2
April	1,030	234	2	620	260	0	178	162	2
May	1,428	375	0	673	242	0	331	279	11
June	1,025	96	0	736	266	0	188	82	6
July	1,438	314	0	1,021	398	0	117	68	0
August	1,988	695	0	1,278	532	0	266	183	1
September	1,566	498	0	670	295	0	53	22	6
October	2,555	877	1	533	229	0	108	48	12
November	2,870	809	0	383	170	0	142	67	4
December	1,957	817	0	315	140	0	151	134	2
1945-January	1,375	329	1	374	182	0	94	36	2
February	1,680	208	1	139	48	0	79	9	0
March	1,673	418	0	214	130	0	180	123	1
April	1,634	475	143	414	212	0	186	81	4
May	1,863	621	217	754	455	1	306	132	31
June	2,685	830	117	888	482	1	350	200	15
July	2,025	473	18	773	474	0	394	183	8
August	448	80	3	189	90	0	151	56	6
1941-43 TOTAL	124	0	27	50	17	6	135	34	12
1944 TOTAL	16,333	4,782	11	6,633	2,707	0	2,192	1,554	52
1945 TOTAL	13,383	3,434	500	3,745	2,073	2	1,740	820	67
GRAND TOTAL	29,840	8,216	538	10,428	4,797	8	4,067	2,408	131

NOTE: Includes all operations by aircraft based at Hawaii, Midway, Wake, the Ellice and Gilbert Islands, the former Japanese Mandated Islands (Marshalls, Carolines, Marianas), Iwo Jima, and the Ryukyus.

No action was reported during months not listed above.

The Central Pacific data also represent a series of campaigns in successive areas (see Table 33). First came the early actions at Wake and Midway, then the attacks on the Gilberts and Marshalls from bases in the Ellices and Gilberts, successively. Then as short-range planes came into the Marshalls to maintain pressure on local targets, the VPB reached out to the Carolines. Acquisition of the Marianas and Peleliu took the VF to these islands to wipe out enemy remnants, while the VPB extended their range still farther. Finally the VF and light bombers moved from the mandated islands to Okinawa, and VPB based there covered Japan, Korea, and the entire Yellow and China Sea areas.

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TABLE 18. Continued

D. NORTH PACIFIC THEATRE (All Planes are VPB)

MONTH	1942		1943		1944		1945	
	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ACTION SORTIES	TONS OF BOMBS ON TARGETS	ACTION SORTIES	TONS OF BOMBS ON TARGETS
January	0	0	2	0	25	19	4	0
February	0	0	1	0	26	18	20	0
March	0	0	3	0	30	18	15	0
April	0	0	1	0	41	27	18	0
May	0	0	2	0	98	47	22	1
June	12	0	39	29	53	26	28	16
July	4	1	17	11	24	9	0	0
August	9	6	8	7	64	27	20	3
September	5	1	0	0	68	22		
October	9	2	2	0	19	3		
November	0	0	0	0	8	0		
December	1	0	6	4	0	0		
YEAR TOTALS	40	10	81	51	456	216	127	20

GRAND TOTALS: 704 sorties, 297 tons.

Two enemy aircraft were destroyed in August 1942, one in August 1944, two in September 1944.

The North Pacific air campaign had three phases. First came the holding period, when Naval PBVs were confined largely to patrol. This culminated with the capture of Attu in May 1943. Then for three months the Naval PV force helped to hammer Kiska. Finally, beginning in the early winter of 1944 the PVs began regular night strikes (and later day searches and strikes) on Jap installations and ships in the Kuriles. These continued until the end of the war, rocket loadings being substituted for bombs during some months, and the PVs being relieved by PB4Vs at the end.

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PART B. SPECIALIZED DATA, BY SUBJECT MATTER

This section of the report is composed of six sub-sections covering specific types of data, as follows:

1. Detailed Data on Aerial Combat, by both Carrier-Based and Land-Based Aircraft, including loss rates and combat ratios. Breakdowns are provided for Navy vs. Marine, and by plane model, type of carrier, year, month, area, and mission of own aircraft. Data on models of enemy aircraft destroyed are also included. (Tables 19-28).
2. Anti-Aircraft Loss and Damage, and Loss Rates, with breakdown by plane model, carrier and land-based, yearly. (Table 29).
3. Attacks on Targets, by Geographical Area. Detailed breakdowns of attacks on targets, and total bomb tonnages expended on target, monthly and yearly, by area, and broken down between land and ship targets, with special emphasis on shipping targets. (Tables 30-35).
4. Attacks on Targets, by Type of Target Attacked. Attack sorties and bomb tonnage, for carrier-based and land-based aircraft, yearly, by plane model attacking, and monthly detail on shipping attacks. (Table 36-40).
5. Details of Ordnance Expenditures. Types of bombs used, and torpedo, rocket and ammunition expenditures, broken down by plane type, by type of target, yearly and monthly and by operation. (Tables 41-54).
6. Night Air Operations. Data on night attacks and aerial combat, for carrier-based and land-based aircraft, monthly and by plane model. (Tables 55-59).
7. Long Range Search Plane Combat Operations, 1945. Detailed data on PB4Y and PBM performance. (Tables 60-61).

1. Aerial Combat Data in Detail (Own and Enemy Planes
Engaged and Destroyed; Loss Rates and Combat Ratios)

NOTES TO TABLES 19, 20, 21

One of the principal achievements of Naval aviation in the war was the devastating supremacy Naval planes attained over Japanese aircraft in air combat. These tables, and others in this section, provide the evidence.

At the beginning of the war Naval superiority in the air was rather slim. Our forces were small and scattered. When they met the enemy in air combat they were often outnumbered. Even if the opposing forces were of equal strength a clear-cut victory could not be assured, though for 1942 as a whole we claimed a 3-to-1 ratio over the enemy in air combat.

In 1943, with newer planes, more planes, better training, and some deterioration of the enemy, our air combat superiority rose to approximately 5-to-1, and the F6F, employed in strong, concentrated surprise attacks from the new, more mobile carrier forces, showed promise in the last months of the year. In early 1944 the promise was proved. In the first four months of that year Naval carrier aircraft, roaming the Central Pacific from the Marshalls to Truk, Saipan, Palau and New Guinea, shot down 419 Jap planes and lost but 19 in air combat, a ratio of 22 to 1. This ratio fell during the campaigns against the Marianas and Iwo, and in the bitter battles of Formosa and Leyte, but it was exceeded in the Visayas and Luzon operations of September, October, and December, and the roving raids of January 1945. After falling to 11-to-1 in the Tokyo and Kyushu strikes of February and March, the supremacy became almost absolute in the Okinawas during April and May; the enemy might get planes through to attack our ships, but he could not compete successfully against our aircraft. During these two months the Japanese lost 1,744 planes in aerial combat, to the Navy's 34 losses, a ratio of over 51-to-1.

For these later operations, of course, the Japanese had few effective combat pilots or planes remaining, and generally attempted to avoid direct combat with our planes. Nevertheless, over half of the Jap planes shot down in these two months were of single-engine fighter types, including 461 Zekes and 197 newer VF types.

Table 19 presents the record for individual types of aircraft for the entire war. It will be clear from the foregoing data that direct comparisons cannot always be made between various types of aircraft, because of the varying times and conditions under which they engaged in combat. Thus comparisons are valid between the carrier F6F and F4U totals because they generally operated from the same ships during the same periods. The FM, however, operating from CVEs, did not usually encounter the same heavy resistance as did the fast carriers operating in advance of the Fleet. Marine F4Us were used on CVs largely in the more difficult February and March actions, and were present only in small quantities to reap the rich April and May harvest which fell to Navy F4Us. Land-based F4Us were handicapped by the difficult conditions of the Solomons in 1943-44. Land-based Navy F6Fs operated in the Solomons; land-based Marine F6Fs operated under the comparatively lush conditions of Okinawa in 1945. The effect of these differences on the totals for the entire war may be partly judged by comparing the yearly data by plane model in Table 20.

Certain tentative conclusions may be reached from these two tables;

- (a) The F6F was slightly superior to the F4U in combat, apparently chiefly because of its greater ability to survive damage.
- (b) CVL F6Fs enjoyed an advantage over CV F6Fs.
- (c) FMs and CVE F6Fs both turned in remarkable records. The F6F appeared to be clearly superior to the FM under CVE combat conditions, but the high combat ratio in favor of the FM, its ability to destroy over 55% of the planes it engaged, and its low ratio of loss to damage indicate that it was an exceptionally good fighter within its speed limitations.
- (d) The PB4Y, normally flying unescorted single-plane long range searches, was one of the Navy's best fighter planes.
- (e) Navy single-engine bombers, far from being the highly vulnerable aircraft claimed by their detractors, gave out far more punishment than they took.

(Cont. on page 60)

TABLE 19. AIRIAL COMBAT DATA, FOR ENTIRE WAR,
By Model of Aircraft, Carrier-Based and Land-Based,
and for own VF, by Type of Carrier and by Service (Navy-Marine)

BASE, PLANE MODEL, TYPE CARRIER, SERVICE	SORTIES ENGAGING ENEMY AIRCRAFT	ENEMY AIRCRAFT ENGAGED		ENEMY AIRCRAFT DESTROYED IN COMBAT		OWN AIRCRAFT CASUALTIES TO ENEMY A/C		ENEMY A/C DESTROYED PER OWN LOSS	PERCENT OF OWN A/C ENGAGING	
		Bombers	Fighters	Bombers	Fighters	Lost	Damaged		Lost	Damaged
CARRIER-BASED	9820	2974	9792	1997	4487	452	622	14.3	4.6	6.3
F6F	6582	1878	6888	1387	3568	245	419	20.2	3.7	6.4
F4U, FG	1042	200	1026	159	419	34	31	17.0	3.3	3.0
FM	753	305	407	194	228	13	26	32.5	1.7	3.5
F4F	422	417	375	190	112	47	23	6.4	11.1	5.5
SB2C, SBW	237	37	243	13	30	18	11	2.4	7.6	4.6
SBD	301	76	357	31	75	43	66	2.5	14.3	21.9
TBF, TBM	429	60	458	22	50	27	46	2.7	6.3	10.7
TBD	54	1	38	1	5	25	0	0.2	46.3	0.0
LAND-BASED[⊙]	4488	1617	6846	759	2048	455	545	6.2	10.1	12.1
F4U, FG	2258	462	3617	319	1241	155	231	10.1	6.9	10.2
F6F	393	76	482	58	150	25	38	8.3	6.4	9.7
F4F	704	653	948	228	375	131	62	4.6	18.6	8.8
F2A	17	31	15	6	4	14	3	0.7	82.4	17.6
SBD	163	2	351	0	32	36	26	0.9	22.1	16.0
SB2U	11	0	25	0	6	1	0	6.0	9.1	0.0
TBF-TBM	94	2	142	1	25	20	34	1.3	21.3	36.2
FB4Y	595	275	979	125	181	28	99	10.9	4.7	16.6
FV	76	22	107	8	12	6	9	3.3	7.9	11.8
PBJ	11	2	8	0	0	0	0	#	0.0	0.0
PBY	101	56	110	0	9	36	32	0.3	35.6	31.7
PBM	47	26	56	6	10	3	6	5.3	6.4	12.8
PB2Y	17	10	4	7	1	0	5	#	0.0	29.4
F6F, CV, Navy	4712	1295	5115	933	2641	185	*	19.3	3.9	*
F6F, CVL, Navy	1712	508	1689	406	876	58	*	22.1	3.4	*
F6F, CVE, Navy	158	62	83	48	51	2	*	49.5	1.3	*
F6F, Land, Navy	307	25	423	12	103	23	*	5.0	7.5	*
F6F, Land, USMC	86	51	59	46	47	2	*	46.5	2.3	*
F4U, CV, Navy	603	131	610	100	260	18	*	20.0	3.0	*
F4U, CV, USMC	419	63	416	53	159	16	*	13.3	3.8	*
F4U, CVE, USMC	20	6	0	6	0	0	*	#	0.0	*
F4U, Land, Navy	215	23	423	19	141	14	*	11.4	6.5	*
F4U, Land, USMC	2043	439	3194	300	1100	141	*	9.9	6.9	*
F4F, CV, Navy	409	409	370	185	109	44	*	6.7	10.8	*
F4F, CVE, Navy	13	8	5	5	3	3	*	2.7	23.1	*
F4F, Land, Navy	245	132	316	53	94	56	*	2.6	22.9	*
F4F, Land, USMC	459	521	423	12	103	75	*	1.5	16.3	*
FM, CVE, Navy	753	305	407	194	228	13	26	32.5	1.7	3.5

No losses.

⊙ Includes a negligible amount of combat by planes of unidentified types, not shown separately.

* Data not available.

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TABLE 20. AERIAL COMBAT DATA, BY YEARS
By Model of Aircraft, Carrier-Based and Land-Based,
(Principal plane models only)

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BASE, PLANE MODEL, YEAR	SORTIES ENGAGING ENEMY AIRCRAFT	ENEMY AIRCRAFT ENGAGED		ENEMY AIRCRAFT DESTROYED IN COMBAT		OWN AIRCRAFT CASUALTIES TO ENEMY A/C		ENEMY A/C DESTROYED PER OWN	PERCENT OF OWN A/C ENGAGING		
		Bombers	Fighters	Bombers	Fighters	Lost	Damaged	LOSS	Lost	Damaged	
CARRIER-BASED:											
<u>F4F</u> 1942	383	387	375	173	112	43	22	6.6	11.2	5.7	
1943	39	30	0	17	0	4	1	4.3	10.3	2.6	
<u>FM</u> 1944	389	197	263	101	134	12	17	19.6	3.1	4.4	
1945	362	106	144	93	94	1	9	187.0	0.3	2.5	
<u>F6F</u> 1943	404	147	380	103	148	18	55	13.9	4.5	13.6	
1944	3731	1128	4098	774	2206	149	249	20.0	4.0	6.7	
1945	2447	603	2409	510	1214	78	114	22.1	3.2	4.7	
<u>F4U,FG</u> 1945	1035	185	1024	154	419	34	31	16.9	3.3	3.0	
<u>SBD</u> 1941-2	188	66	267	28	60	39	37	2.3	20.7	19.7	
1943	64	7	43	2	11	2	21	6.5	3.1	32.8	
1944	49	3	47	1	4	2	8	2.5	4.1	16.3	
<u>SB2C</u> 1943	8	2	20	1	3	2	0	2.0	25.0	0.0	
1944	195	34	202	12	26	14	11	2.7	7.2	5.6	
1945	34	1	21	0	1	2	0	0.5	5.9	0.0	
<u>TBF,</u> 1942	16	1	32	1	4	7	2	0.7	43.8	12.5	
<u>TBM</u> 1943	56	12	62	8	7	8	18	1.9	14.3	32.1	
1944	284	34	266	7	31	7	21	5.4	2.5	7.4	
1945	73	13	98	6	8	5	5	2.8	6.8	6.8	
LAND-BASED:											
<u>F4F</u> 1941-2	501	579	563	187	243	79	40	5.4	15.8	8.0	
1943	203	74	385	41	132	52	20	3.3	25.6	9.9	
<u>F4U,FG</u> 1943	798	213	1664	110	526	94	117	6.8	11.8	14.7	
1944	979	18	1592	14	477	49	97	10.0	5.0	9.9	
1945	481	231	361	195	240	12	17	36.3	2.5	3.5	
<u>F6F</u> 1943	174	25	231	12	59	17	20	4.2	9.8	11.5	
1944	153	11	217	7	58	6	18	10.8	3.9	11.8	
1945	66	40	34	39	33	2	0	36.0	3.0	0.0	
<u>PB4Y</u> 1943	91	101	216	13	28	10	20	4.1	11.0	22.0	
1944	251	93	376	59	72	11	40	11.9	4.4	15.9	
1945	253	81	387	53	81	7	39	19.1	2.8	15.4	

Table 21 gives evidence of;

(Cont. from page 58)

- (a) The formidable enemy air opposition to Naval air operations throughout the war. Far more enemy planes were engaged (and destroyed) in combat in 1944 and 1945 than during the adverse years of 1942-43.
- (b) The relative decline in enemy air opposition in proportion to the vast increase in our own offensive and defensive air effort. In 1942 a quarter of our action sorties engaged enemy aircraft; in 1945 only 4 percent engaged.
- (c) The increasing effectiveness of Naval aircraft against the enemy, measured in the ratio of enemy planes destroyed to own losses, in the percentage lost of own planes engaged in combat, and in percentage of own action sorties lost in air combat. In 1942 5% of all Navy action sorties were lost in aerial combat, in 1945 less than one-eighth of one percent.

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TABLE 21. AERIAL COMBAT RATIOS, BY YEARS
By Type of Aircraft, Carrier-Based and Land-Based

BASE, PLANE TYPE	ACTION SORTIES	SORTIES EN- GAGING ENEMY AIRCRAFT		ENEMY AIRCRAFT ENGAGED			ENEMY AIRCRAFT DESTROYED IN COMBAT		OWN LOSSES TO ENEMY AIRCRAFT	ENEMY PLANES DES- TROYED PER OWN LOSS	PERCENT LOST OF OWN PLANES ENGAG- ING	
		% of Num- Action ber Sorties	Bomb- Fight- ers ers	RATIO TO OWN A/C EN- GAGING	Bomb- Fight- ers ers							
<u>CARRIER-BASED:</u>												
<u>VF</u>	1942	938	383	40.8	387	375	2.0 : 1	173	112	43	6.6	11.2
	1943	2,340	445	19.0	179	380	1.3 : 1	120	148	22	12.2	4.9
	1944	37,940	4127	10.9	1340	4363	1.4 : 1	880	2340	161	20.0	3.9
	1945	44,774	3844	8.6	894	3577	1.2 : 1	757	1727	113	22.0	2.9
<u>VSB- VTB</u>	1942	1,735	258	14.9	68	337	1.6 : 1	30	69	71	1.4	27.5
	1943	2,787	128	4.6	21	125	1.1 : 1	11	21	12	2.7	9.4
	1944	31,188	528	1.7	71	515	1.1 : 1	20	61	23	3.5	4.4
	1945	25,392	107	0.4	14	119	1.2 : 1	6	9	7	2.1	6.5
<u>LAND-BASED:</u>												
<u>VF</u>	1941-2	1,089	518	47.6	610	578	2.3 : 1	193	247	93	4.7	18.0
	1943	4,295	1175	27.4	312	2280	2.2 : 1	163	717	163	5.4	13.9
	1944	34,048	1132	3.3	29	1809	1.6 : 1	22	535	55	10.1	4.9
	1945	21,171	547	2.6	271	395	1.2 : 1	234	273	14	36.2	2.6
<u>VSB- VTB</u>	1941-2	1,405	107	7.6	1	190	1.8 : 1	0	28	27	1.0	25.2
	1943	10,971	54	0.5	1	95	1.8 : 1	0	17	22	0.8	40.7
	1944	25,782	103	0.4	1	230	2.2 : 1	0	17	5	3.4	4.9
	1945	21,431	4	0.0	1	3	1.0 : 1	1	1	3	0.7	75.0
<u>VFB</u>	1941-2	109	64	58.7	32	67	1.5 : 1	0	8	32	0.3	50.0
	1943	883	134	15.2	138	252	2.9 : 1	15	29	15	2.9	11.2
	1944	7,085	342	4.8	116	498	1.8 : 1	71	83	17	9.1	5.0
	1945	8,714	308	3.5	105	449	1.8 : 1	60	93	9	17.0	2.9

(Cont. from preceding page)

- (d) The increasing effectiveness of Naval fighter escort of single-engine bombers. In 1942 fifteen percent of carrier VSB-VTB action sorties had to engage enemy aircraft and four percent were lost to enemy air action; in 1944 only 1.7 percent met enemy aircraft, and only one-thirteenth of one percent were lost; in 1945 less than $\frac{1}{2}$ of one percent were forced to engage enemy planes, and only 7 bombers, or $\frac{1}{36}$ of one percent, were lost in air combat.

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TABLE 22. AERIAL COMBAT DATA, MONTHLY

A. ALL CARRIER-BASED AIRCRAFT

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MONTH	SORTIES ENGAGING ENEMY AIRCRAFT	ENEMY AIRCRAFT ENGAGED		ENEMY AIRCRAFT DESTROYED IN COMBAT		OWN AIRCRAFT CASUALTIES TO ENEMY A/C		ENEMY A/C DESTROYED PER OWN	PERCENT OF OWN A/C ENGAGING	
						Lost Damaged		LOSS	Lost Damaged	
		Bombers	Fighters	Bombers	Fighters					
1941-December	*	*	*	*	*	1	0	*	*	*
1942-February	52	37	15	23	10	6	9	5.5	11.5	17.3
March	3	1	0	1	0	0	0	#	0.0	0.0
May	133	37	141	24	42	21	21	3.1	15.8	15.8
June	138	68	226	33	36	41	4	1.7	29.7	2.9
August	142	207	119	65	23	23	13	3.8	16.2	9.2
October	116	90	138	48	42	20	12	4.5	17.2	10.3
November	57	15	74	9	28	2	2	18.5	3.5	3.5
1943-January	15	23	0	11	0	0	1	#	0.0	6.7
February	20	5	0	4	0	1	0	4.0	5.0	0.0
March	*	*	*	*	*	1	0	*	*	*
July	1	1	0	0	0	0	0	#	0.0	0.0
August	*	*	*	*	*	2	0	*	*	*
September	15	5	0	5	0	0	1	#	0.0	6.7
October	86	17	82	9	34	1	9	43.0	1.2	10.5
November	362	130	331	92	99	26	74	7.3	7.2	20.4
December	74	19	92	10	36	3	10	15.3	4.1	13.5
1944-January	121	11	119	10	42	5	17	10.4	4.1	14.0
February	222	42	223	31	131	6	19	27.0	2.7	8.6
March	142	24	179	21	90	3	13	37.0	2.1	9.2
April	203	38	133	33	61	5	11	18.8	2.5	5.4
May	10	2	1	2	1	0	0	#	0.0	0.0
June	992	470	1131	254	543	48	73	16.6	4.8	7.4
July	131	12	167	10	103	14	11	8.1	10.7	8.4
August	47	15	14	10	14	3	0	8.0	6.4	0.0
September	578	88	669	46	327	13	37	28.7	2.2	6.4
October	1572	617	1645	409	780	74	105	16.1	4.7	6.7
November	483	61	483	49	223	11	18	24.7	2.3	3.7
December	154	31	114	25	86	2	3	55.5	1.3	1.9
1945-January	486	85	287	74	169	10	21	24.3	2.1	4.3
February	950	73	1184	50	382	40	64	10.8	4.2	6.7
March	630	147	574	106	243	32	25	10.9	5.1	4.0
April	1185	474	958	431	618	18	30	58.3	1.5	2.5
May	363	77	415	59	219	5	7	55.6	1.4	1.9
June	113	2	114	1	20	4	0	5.3	3.5	0.0
July	109	17	86	15	47	7	7	8.9	6.4	6.4
August	115	33	78	27	38	4	5	16.3	3.5	4.7
1941-42 TOTAL	641	455	713	203	181	114	61	3.4	17.8	9.5
1943 TOTAL	573	200	505	131	169	34	95	8.8	5.9	16.6
1944 TOTAL	4655	1411	4878	900	2401	184	307	17.9	4.0	6.6
1945 TOTAL	3951	908	3696	763	1736	120	159	20.8	3.0	4.0
GRAND TOTAL	9820	2974	9792	1997	4487	452	622	14.3	4.6	6.0

No losses.

* No engagements reported; the losses reported may have been sustained in unreported actions during this month, or in previous months' actions, or the cause of loss may have been incorrectly ascribed to aerial combat. The latter factor may apply also to other months in 1942 and 1943.

NOTE: No engagements were reported in months not listed above.

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TABLE 22. Continued.

B. ALL LAND-BASED AIRCRAFT

MONTH	SORTIES ENGAGING ENEMY AIRCRAFT	ENEMY AIRCRAFT ENGAGED		ENEMY AIRCRAFT DESTROYED IN COMBAT		OWN AIRCRAFT CASUALTIES TO ENEMY A/C		ENEMY A/C DESTROYED PER OWN LOSS	PERCENT OF OWN A/C ENGAGING	
		Bombers	Fighters	Bombers	Fighters	Lost	Damaged		Lost	Damaged
1941-December	34	90	22	10	2	8	5	1.5	23.5	14.7
1942-January	9	12	1	0	1	2	3	0.5	22.2	33.3
February	6	8	5	0	1	6	0	0.2	100.0	0.0
March	1	1	0	1	0	0	1	#	0.0	100.0
May	3	3	0	0	0	0	3	#	0.0	100.0
June	74	43	109	8	13	39	14	0.5	52.7	18.9
July	1	0	2	0	0	0	0	#	0.0	0.0
August	47	36	77	21	35	8	4	7.0	17.0	8.5
September	191	274	201	74	37	18	28	6.2	9.4	14.7
October	204	117	240	57	120	43	10	4.1	21.1	4.9
November	92	59	135	22	55	21	7	3.7	22.8	7.6
December	27	0	43	0	19	7	2	2.7	25.9	7.4
1943-January	54	8	109	4	50	11	1	4.9	20.4	1.9
February	26	7	47	5	16	22	8	1.0	84.6	30.8
March	4	1	17	0	1	2	2	0.5	50.0	50.0
April	53	30	76	13	33	20	11	2.3	37.7	20.8
May	21	5	25	0	15	5	5	3.0	23.8	23.8
June	116	66	184	44	84	29	18	4.4	25.0	15.5
July	260	95	577	36	150	38	34	4.9	14.6	13.1
August	167	44	368	16	93	13	25	8.4	7.8	15.0
September	224	61	402	15	93	26	26	4.2	11.6	11.6
October	106	18	209	4	65	7	16	9.9	6.6	15.1
November	143	82	195	38	60	11	20	8.9	7.7	14.0
December	189	34	418	3	103	16	35	6.6	8.5	18.5
1944-January	714	7	1308	6	364	40	104	9.3	5.6	14.6
February	445	15	651	11	138	18	42	8.3	4.0	9.4
March	31	11	39	5	15	2	4	10.0	6.5	12.9
April	32	22	30	11	3	1	0	14.0	3.1	0.0
May	36	11	87	9	9	1	5	18.0	2.8	13.9
June	40	22	49	12	9	0	7	#	0.0	17.5
July	17	4	15	2	2	1	3	4.0	5.9	17.6
August	30	4	42	1	3	1	7	4.0	3.3	23.3
September	23	9	24	6	3	2	2	4.5	8.7	8.7
October	25	10	24	9	10	3	2	6.3	12.0	8.0
November	37	2	69	2	8	3	7	3.3	8.1	18.9
December	147	29	199	19	71	5	20	18.0	3.4	13.6
1945-January	23	7	14	4	11	0	3	#	0.0	13.0
February	52	27	59	13	14	2	4	13.5	3.8	7.7
March	34	16	49	14	12	1	1	26.0	2.9	2.9
April	175	129	107	107	49	5	5	31.2	2.9	2.9
May	279	130	259	99	162	6	24	43.5	2.2	8.6
June	216	50	251	43	95	8	17	17.3	3.7	7.9
July	61	14	72	11	17	3	6	9.3	4.9	9.8
August	19	4	36	4	7	1	4	11.0	5.3	21.1
1941-42 TOTAL	689	643	835	193	283	152	77	3.1	22.1	11.2
1943 TOTAL	1363	451	2627	178	763	200	201	4.7	14.7	14.7
1944 TOTAL	1577	146	2537	93	635	77	203	9.5	4.9	12.9
1945 TOTAL	859	377	847	295	367	26	64	25.5	3.0	7.5
GRAND TOTAL	4488	1617	6846	759	2048	455	545	6.2	10.1	12.1

No losses.

Note: Delayed reporting of losses, and failure to report exact date of loss, may have unduly inflated apparent loss rates for some months of light combat activity succeeding months of heavy activity, particularly February 1943. Also, there is reason to believe that some aerial combat in the Solomons in 1942 and 1943 has not been reported, and that some losses from other causes have been incorrectly ascribed to enemy aircraft by the reporting unit.

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NOTE TO TABLE 22

This table is inserted largely for historical record, and its major features have been touched on in previous discussions. The rather violent fluctuations in monthly volume of air combat activity may be noted, as well as fluctuations in the loss ratios. To some extent the latter are chance fluctuations, but largely they represent actual variations in the intensity and quality of enemy aerial resistance encountered, and in the predominant types of enemy planes engaged.

NOTES TO TABLES 23 AND 24

These tables provide a breakdown of air combat activity by type of aircraft and primary purpose of the mission during which the combat occurred.

Well over half of the total number of sorties engaging enemy aircraft in combat were on offensive missions, one-twelfth were on reconnaissance and miscellaneous missions, and less than 40 percent were on defensive missions. Of the total enemy aircraft shot down, 7 percent were encountered on reconnaissance and search missions, and the remainder were evenly divided between offensive and defensive encounters. Thus, as would be expected, more enemy planes were destroyed per own plane engaging in defensive combat than in offensive combat.

On offensive missions the enemy planes engaged were over 90% fighter types, while in defensive actions about 40% were normally bombers. For the same reason losses in air combat were normally higher on offensive missions; over 60% were sustained on such missions, and only 30% of the total in defensive engagements. Normally from 40% to 70% of the enemy planes engaged by our fighters were reported destroyed. Bombers claimed the destruction of only about 15% of the enemy fighters encountered, and 30% or more of the enemy bombers engaged.

Table 23 gives anti-aircraft and operational losses on action sorties as well as losses in air combat. Of the total losses on action sorties over 80 percent were on offensive missions, 12 percent on defensive missions, and about 7 percent on search, reconnaissance and miscellaneous missions resulting in action. Primarily the combat action of Naval aircraft was offensive, and the losses sustained in action were in large part sustained in carrying the offensive to the enemy.

Table 24 is an extension to a monthly basis of the "Enemy Aircraft Destroyed" columns of Table 23. It provides an interesting historical record of the fluctuations between offensive and defensive combat at various stages of the war. In 1942 the air combat, by carrier and land-based planes, was predominantly defensive. In addition, because of a shortage of fighters on carriers, carrier bombers had to handle a considerable share of the combat on offensive missions. In the latter part of 1943 the balance shifted in favor of the offensive, and so remained during most of 1944, with the exception of the two great air campaigns of June and October, when the carriers defended themselves and the amphibious forces against everything the Japs could get into the air to stop the carrier-paced invasions of Saipan and Leyte.

The emphasis on offensive air combat continued into early 1945, particularly in February and to a lesser extent in March. In April and May combat shifted almost wholly to the defensive as carriers and land-based aircraft combined their efforts to turn back the Japanese counter-attack on our forces at Okinawa. For 1945 as a whole the balance was clearly in favor of defensive combat, by 2-to-1, while in 1944 it favored the offensive by the same ratio.

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TABLE 23. OWN SORTIES AND LOSSES, AND COMBAT
WITH ENEMY AIRCRAFT, BY MISSION OF OWN AIRCRAFT
By Type of Aircraft, Carrier-Based and Land-Based, for Entire War.

BASE, PLANE TYPE, PURPOSE OF MISSION	ACTION SORTIES	SORTIES ENGAGING ENEMY AIRCRAFT	ENEMY AIRCRAFT ENGAGED		ENEMY AIRCRAFT DESTROYED IN COMBAT		OWN LOSSES ON ACTION SORTIES		
			Bombers	Fighters	Bombers	Fighters	To Enemy		Opera- tional
							A/A	A/C	
CARRIER-BASED:									
VF Offensive	67,437	4,377	513	5,483	380	2,569	614	204	357
Defensive	14,877	4,081	2,090	2,883	1,394	1,624	53	102	124
Recce. & Misc.	3,596	342	192	324	155	134	31	10	14
Unknown	106	1	1	0	1	0	58*	23*	1*
VSB- Offensive	58,514	854	69	951	28	132	597	86	494
VTB Defensive	1,136	82	61	65	21	9	0	8	3
Recce. & Misc.	1,304	83	48	86	18	19	25	9	7
Unknown	144	0	0	0	0	0	50*	10*	1*
LAND-BASED:									
VF Offensive	55,253	1,963	189	3,299	79	1,028	180	141	158
Defensive	4,193	1,378	1,034	1,725	533	726	16	120	39
Recce. & Misc.	1,099	30	1	35	0	18	7	1	1
Unknown	58	0	0	0	0	0	29*	63*	0
VSB- Offensive	57,683	237	1	457	0	55	136	28	89
VTB Defensive	47	0	0	0	0	0	0	0	0
Recce. & Misc.	1,847	32	3	62	1	8	15	5	7
Unknown	12	0	0	0	0	0	35*	24*	1*
VPB Offensive	10,690	95	13	146	1	13	33	12	21
Defensive	64	16	17	7	6	4	0	1	0
Recce. & Misc.	5,996	727	359	1,103	139	196	82	38	28
Unknown	37	10	0	12	0	0	21*	22*	0

* Losses listed under "Unknown" are not comparable with the action sorties reported under this category; they represent largely losses on offensive, defensive or reconnaissance missions which were reported through aircraft record channels rather than in action reports and are thus not classifiable by type of mission. These losses should be pro-rated among the three types of mission, in proportion to the losses where type of mission was known, if loss rates for various types of mission are computed.

NOTE: Losses to enemy A/A on "defensive" missions are largely attributable to attacks by target combat air patrols after completion of their defensive primary mission. It should be noted that action sorties whose primary purpose was search or reconnaissance normally involved attacks on targets of opportunity.

(See notes on page 64)

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TABLE 24. ENEMY AIRCRAFT DESTROYED IN AERIAL COMBAT
BY ALL NAVAL AND MARINE AIRCRAFT

By Base, Mission, and Type of Own Aircraft Accomplishing their Destruction, Monthly.

MONTH	BASE, MISSION, AND TYPE OF OWN AIRCRAFT												TOTAL		
	CARRIER-BASED						LAND-BASED								
	OFFENSIVE		DEFENSIVE		REC. & MISC.		OFFENSIVE		DEFENSIVE		REC. & MISC.				
	VSB- VF	VTB	VSB VF	VTB	VSB- VF	VTB	VSB- VF	VTB	VPB	VSB- VF	VTB	VPB			
1941-December	-	-	-	-	-	-	-	-	1	10	-	-	-	1	12
1942-January	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
February	4	7	21	1	-	-	-	-	-	-	-	-	-	1	34
March	-	1	-	-	-	-	-	-	-	1	-	-	-	-	2
May	18	16	16	14	-	2	-	-	-	-	-	-	-	-	66
June	21	4	44	-	-	-	-	6	-	15	-	-	-	-	90
August	-	10	72	2	-	4	1	-	-	51	-	-	-	4	144
September	-	-	-	-	-	-	34	-	-	77	-	-	-	-	111
October	16	23	41	-	-	10	26	8	-	138	-	5	-	-	267
November	2	4	30	-	-	1	20	5	-	48	-	2	2	-	114
December	-	-	-	-	-	-	17	2	-	-	-	-	-	-	19
1943-January	-	-	11	-	-	-	42	2	-	10	-	-	-	-	65
February	-	-	4	-	-	-	15	6	-	-	-	-	-	-	25
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
April	-	-	-	-	-	-	6	-	-	40	-	1	-	-	46
May	-	-	-	-	-	-	-	-	-	15	-	-	-	-	15
June	-	-	-	-	-	-	46	-	-	82	-	-	-	-	128
July	-	-	-	-	-	-	93	6	-	81	-	-	-	6	186
August	-	-	-	-	-	-	27	-	-	73	-	8	-	1	109
September	-	-	5	-	-	-	93	2	-	4	-	-	-	9	113
October	27	-	16	-	-	-	62	-	-	2	-	-	-	5	112
November	120	20	47	3	-	1	8	-	-	78	1	-	-	11	289
December	30	8	7	-	1	-	90	-	-	5	2	-	-	9	152
1944-January	34	1	17	-	-	-	343	15	-	3	1	-	-	8	422
February	139	3	17	-	2	1	132	2	-	6	4	-	-	5	311
March	87	2	19	-	2	1	13	-	-	1	-	1	-	5	131
April	70	3	21	-	-	-	-	-	-	2	-	-	-	-	108
May	1	1	-	-	1	-	-	-	-	-	-	-	-	12	21
June	279	6	465	3	38	6	1	-	-	-	-	-	-	18	818
July	96	-	15	-	2	-	-	-	1	-	-	-	-	20	117
August	16	-	1	-	7	-	-	-	3	-	-	-	-	3	28
September	349	5	16	-	3	-	-	-	1	-	-	-	-	8	382
October	499	29	581	4	68	8	-	-	-	-	-	1	-	18	1208
November	196	7	58	1	10	-	-	-	-	-	1	-	-	9	282
December	65	-	45	-	1	-	14	-	-	36	-	4	-	36	201
1945-January	88	2	148	1	4	-	1	-	-	4	1	-	-	9	258
February	378	5	28	-	21	-	-	-	-	1	-	-	-	26	459
March	184	1	136	-	27	1	1	-	-	-	-	-	-	25	375
April	131	1	823	-	92	2	4	-	-	141	-	-	-	11	1205
May	28	1	246	-	3	-	3	1	-	214	-	-	-	43	539
June	10	-	11	-	-	-	7	-	3	108	-	2	1	17	159
July	43	-	17	-	2	-	8	-	2	10	-	-	-	8	90
August	18	-	41	-	6	-	-	-	3	3	-	-	-	5	76
1941-42 Total	61	65	224	17	0	17	98	21	1	340	0	2	7	7	860
1943 Total	177	28	90	3	1	1	482	16	0	390	3	8	1	41	1241
1944 Total	1831	57	1255	8	134	16	503	17	5	48	6	6	0	143	4029
1945 Total	880	10	1450	1	155	3	24	1	8	481	1	2	1	144	3161
GRAND TOTAL	2949	160	3019	29	290	37	1107	55	14	1259	10	18	9	335	9291

No enemy planes were destroyed in April or July 1942.

(See notes on page 64)

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TABLE 25. OWN SORTIES AND COMBAT LOSSES, AERIAL COMBAT DATA,
AND ENEMY AIRCRAFT DESTROYED ON GROUND, BY AREA,
FOR ENTIRE WAR

BASE, AREA OF TARGET OR ENGAGEMENT	ACTION SORTIES	SORTIES ENGAGING ENEMY AIRCRAFT	ENEMY AIRCRAFT ENGAGED		ENEMY AIRCRAFT DESTROYED IN COMBAT		ENEMY AIRCRAFT DESTROYED ON GROUND	OWN LOSSES	
			Bombers	Fighters	Bombers	Fighters		To Enemy A/A	To Enemy A/C
<u>CARRIER-BASED</u>									
Hokkaido, No. Honshu	2,350	4	2	0	1	0	79 ⁸¹⁶	32	0
Tokyo Area	7,889	1002	95	1191	68	410	965	76	40
Central Honshu	3,381	220	35	146	32	47	301	70	5
Kyushu, Kure Area	6,891	681	65	862	48	348	471	130	40
Ryukyus	37,421	1612	684	1259	581	780	491	236	25
Formosa	5,727	641	207	589	157	300	521	80	26
Central & South China	843	44	9	39	8	17	3	28	4
Indo China	910	32	5	13	4	10	97	17	0
Bonins	7,502	242	39	334	27	205	167	87	22
Marianas	18,747	988	480	1012	263	478	217	141	45
Western Carolines	10,234	157	26	184	22	92	99	64	7
Eastern Carolines	3,744	276	33	322	21	135	167	38	8
Marshalls	6,812	149	32	187	23	102	162	27	9
Gilberts, Nauru	2,140	97	42	35	23	22	25	10	3
Wake, Marcus	2,794	89	17	82	9	34	36	23	1
Midway Area	387	147	71	226	36	36	140	20	42
Philippines	22,323	2471	587	2459	387	1235	1590	278	77
New Guinea, Halmahera	3,063	84	29	15	23	9	133	11	0
Celebes, Borneo	116	0	0	0	0	0	28	1	0
Sumatra, Java	117	13	4	1	4	1	41	3	0
Bismarcks, Solomons	2,533	819	494	787	247	202	91	19	97
Aleutians	86	0	0	0	0	0	0	0	0
Europe, Africa	1,103	56	22	51	14	26	30	38	1
<u>LAND-BASED</u>									
Tokyo, Central Honshu	314	43	9	86	4	19	2	8	3
Kyushu, Kure Area	1,108	60	5	81	4	27	5	10	4
Ryukyus	5,435	537	297	395	248	262	18	40	14
Formosa	260	32	20	35	10	10	6	4	0
Korea, North China	347	48	5	57	3	11	0	10	0
Central & South China	511	30	15	39	10	8	3	15	1
Indo China	290	33	12	59	10	14	11	6	1
Malay Peninsula	64	19	5	46	4	7	8	0	1
Bonins	272	61	17	66	9	13	9	11	1
Marianas	2,060	32	5	88	2	8	2	4	0
Western Carolines	11,456	23	6	30	5	3	11	39	0
Eastern Carolines	1,147	80	34	99	20	20	11	6	0
Marshalls	21,552	37	6	111	3	17	6	57	3
Gilberts, Nauru	444	16	11	28	2	2	0	3	1
Wake, Marcus	320	23	90	1	11	0	5	4	0
Midway Area	101	72	50	107	9	13	0	4	33
Philippines	26,959	167	33	180	24	75	112	66	18
New Guinea, Halmahera	233	20	14	17	8	8	0	3	3
Celebes, Borneo	728	47	30	71	5	10	18	5	6
Bismarcks, Solomons	62,628	3014	861	5129	364	1513	101	241	343
Aleutians	114	23	3	26	0	2	0	5	11
Kuriles	583	37	1	75	1	2	1	7	5
Atlantic	58	28	86	5	2	0	0	3	9

(See notes on pp 69-70)

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TABLE 26. OWN SORTIES AND LOSSES, AERIAL COMBAT DATA,
AND ENEMY AIRCRAFT DESTROYED ON GROUND, MONTHLY, IN
MAJOR AREA CAMPAIGNS

A. SOLOMONS - BISMARCKS AREA

A. SOLOMONS - BISMARCKS AREA										
BASE, MONTH	ACTION SORTIES	SORTIES ENGAGING ENEMY AIRCRAFT	ENEMY AIRCRAFT ENGAGED		ENEMY AIRCRAFT DESTROYED IN COMBAT		ENEMY AIRCRAFT DESTROYED ON GROUND	OWN LOSSES ON ACTION SORTIES		
			Bombers	Fighters	Bombers	Fighters		To Enemy		Opera- tional
								A/A	A/C	
<u>LAND-BASED</u>	62,622	3,013	860	5,129	364	1,513	101	241	348	179
1942-August	89	42	35	72	21	33	0	1	8	0
September	506	186	271	198	74	37	1	2	18	5
October	838	204	117	240	57	120	7	6	41	11
November	606	92	59	135	22	55	0	8	21	7
December	334	27	0	41	0	19	0	3	8	0
1943-January	394	54	8	109	4	50	4	4	15	1
February	429	25	7	45	5	16	2	10	21	0
March	358	4	1	17	0	1	0	0	2	4
April	445	53	30	76	13	33	0	14	21	5
May	451	20	4	25	0	15	0	3	5	6
June	729	115	66	183	44	84	0	3	30	8
July	3,119	260	95	577	36	150	3	7	38	8
August	1,116	157	31	353	16	91	21	2	10	6
September	1,609	213	35	380	13	91	9	10	22	12
October	1,565	101	5	208	4	65	23	9	7	8
November	2,772	125	63	158	36	52	1	13	11	10
December	2,781	153	8	341	2	94	0	6	14	10
1944-January	3,048	704	7	1,273	4	360	17	16	39	18
February	3,942	444	12	651	10	138	5	24	17	10
March	5,630	18	2	20	2	6	3	19	0	3
April	3,645	5	2	3	0	0	0	21	0	10
May	3,087	4	0	5	0	1	2	20	0	3
June	1,558	4	1	4	1	1	0	5	0	4
July	2,763	0	0	0	0	0	0	6	0	4
August	3,673	2	1	1	0	1	1	9	0	2
September	3,738	0	0	0	0	0	1	10	0	8
October	4,019	0	0	0	0	0	1	6	0	5
November	3,593	0	0	0	0	0	0	4	0	4
December	1,173	1	0	13	0	0	0	0	0	2
1945-Jan.-Aug.	4,612	0	0	0	0	0	0	0	0	5
<u>CARRIER-BASED</u>	2,545	819	494	790	247	204	91	17	96	46
1942-February	27	19	30	0	17	0	0	0	2	0
May	332	133	37	141	24	42	21	1	21	11
August	681	142	207	119	65	23	30	5	23	6
October	287	116	90	138	48	42	21	1	20	19
November	96	20	2	26	2	5	0	1	1	0
1943-January	78	15	23	0	11	0	0	0	0	0
February	20	20	5	0	4	0	0	0	1	0
July	7	1	1	0	0	0	0	0	2	0
November	707	266	93	278	71	67	19	8	22	10
December	103	12	4	0	3	0	0	1	0	0
1944-January	178	69	1	86	1	24	0	0	4	0
March	25	4	0	2	0	1	0	0	0	0
April	4	2	1	0	1	0	0	0	0	0
GRAND TOTAL	65,167	3,832	1,354	5,919	611	1,717	192	258	444	225

Note: Minor discrepancies between this and the preceding table result from ineradicable differences between machine tabulations and are too small to affect the usefulness of the data.

(See notes on pp 69-70)

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TABLE 26. Continued

B. PHILIPPINES AREA

BASE, MONTH	ACTION SORTIES	SORTIES ENGAGING ENEMY AIRCRAFT	ENEMY AIRCRAFT ENGAGED		ENEMY AIRCRAFT DESTROYED IN COMBAT		ENEMY AIRCRAFT DESTROYED ON GROUND	OWN LOSSES ON ACTION SORTIES		
			Bombers	Fighters	Bombers	Fighters		To Enemy A/A	A/C	Opera- tional
<u>CARRIER-BASED</u>	<u>22,328</u>	<u>2,471</u>	<u>592</u>	<u>2,499</u>	<u>385</u>	<u>1,234</u>	<u>1,590</u>	<u>279</u>	<u>77</u>	<u>242</u>
1944-September	6,025	567	85	667	44	326	463	39	12	28
October	6,584	1,012	382	1,076	237	513	296	112	49	112
November	4,299	483	61	483	49	223	498	81	11	36
December	2,062	154	31	114	25	86	230	28	2	27
1945-January	3,358	255	33	159	30	86	103	19	3	39
<u>LAND-BASED</u>	<u>26,937</u>	<u>155</u>	<u>32</u>	<u>167</u>	<u>24</u>	<u>73</u>	<u>112</u>	<u>69</u>	<u>11</u>	<u>58</u>
1944-July	3	1	1	0	1	0	0	0	0	0
August	4	1	1	0	1	0	0	0	0	0
September	37	5	5	0	4	0	7	0	0	0
October	59	8	4	3	4	2	21	4	1	0
November	58	11	0	21	0	4	10	1	2	0
December	763	108	20	134	14	59	16	12	5	1
1945-January	1,347	10	1	7	0	7	20	9	0	9
February	5,661	0	0	0	0	0	18	13	2	12
March	5,734	2	0	1	0	1	13	10	0	13
April	5,196	1	0	1	0	0	6	8	0	6
May	3,909	1	0	0	0	0	1	7	0	2
June	2,289	0	0	0	0	0	0	4	1	8
July	1,567	7	0	0	0	0	0	0	0	7
August	310	0	0	0	0	0	0	1	0	0
GRAND TOTAL	49,265	2,626	624	2,666	409	1,307	1,702	348	88	300

See note to Part A of this table

NOTES TO TABLES 25 AND 26

Table 25 shows the distribution among areas of aerial combat by Navy and Marine aircraft, for the entire war. Table 26 gives the monthly record for the four major areas where the greatest destruction of enemy planes took place.

The area in which Naval aircraft destroyed the largest number of enemy aircraft was the Philippines - 1,721 in air combat, 1,702 on the ground. Nearly all of this was accomplished the last four months of 1944 and January 1945, 1,073 in October alone, 833 in September, 770 in November.

Second in importance were the Japanese home islands taken as a whole. In Japan the destruction was primarily of grounded aircraft, the bulk of which (1,102, plus 120 in air combat) were destroyed in the concluding carrier campaign of July and August 1945. The greatest enemy losses in aerial combat (420) were sustained in the February carrier raids on the Tokyo area; during the same month 228 grounded planes were also destroyed, for a total of 648. The remainder of the total of 2,831 planes was accounted for in the four intervening months, March-June 1945.

The area of third importance was the Ryukyus, where destruction was accomplished largely in air combat. Here too the results (1,871 in air combat, 509 on the ground) were largely accomplished in a very few months, the bulk in the one month of April 1945, when 1,337 planes were destroyed in this area alone, and May 1945, when 466 were accounted for.

In all the above areas carrier aircraft were the primary agent of destruction, of grounded
(Cont. on next page)

TABLE 26. Continued

C. RYUKYUS AREA

BASE, MONTH	ACTION SORTIES	SORTIES ENGAGING ENEMY AIRCRAFT	ENEMY AIRCRAFT ENGAGED		ENEMY AIRCRAFT DESTROYED IN COMBAT		ENEMY AIRCRAFT DESTROYED ON GROUND	OWN LOSSES ON ACTION SORTIES		
			Bombers	Fighters	Bombers	Fighters		To Enemy		Opera- tional
								A/A	A/C	
<u>CARRIER-BASED</u>	<u>37,421</u>	<u>1,612</u>	<u>684</u>	<u>1,259</u>	<u>581</u>	<u>780</u>	<u>491</u>	<u>242</u>	<u>25</u>	<u>163</u>
1944-October	1,543	87	72	58	52	25	88	10	2	6
1945-January	676	0	0	0	0	0	28	8	0	2
March	7,866	136	84	56	58	38	106	61	2	50
April	15,423	1,100	456	846	415	547	227	102	18	59
May	7,081	257	68	278	52	160	29	44	3	34
June	4,816	28	1	21	1	10	13	17	0	12
July	16	4	3	0	3	0	0	0	0	0
<u>LAND-BASED</u>	<u>5,435</u>	<u>537</u>	<u>297</u>	<u>395</u>	<u>248</u>	<u>262</u>	<u>18</u>	<u>46</u>	<u>14</u>	<u>26</u>
1945-January	11	2	2	0	2	0	0	0	0	0
February	31	5	5	1	4	1	0	1	0	1
March	61	5	4	2	3	1	0	0	0	0
April	846	151	117	82	100	46	2	8	5	7
May	1,371	212	112	167	87	137	1	13	3	5
June	2,021	149	46	140	42	74	2	15	5	11
July	957	10	9	2	8	2	13	7	1	2
August	137	3	2	1	2	1	0	2	0	0
GRAND TOTAL	42,856	2,149	981	1,654	829	1,042	509	288	39	189

See note to Part A of this table.

(Cont. from preceding page)

aircraft bulked high in the total, and the campaigns were short. In the fourth-ranking area, the Solomons and Bismarcks, land-based aircraft accounted for 1,988 of the 2,520 planes destroyed, all but 192 were destroyed in air combat, and the active air campaign lasted 20 months. It was also the most expensive campaign for the Navy, in terms of air combat losses.

The Japs had a number of bad months in the Solomons and Bismarcks, but their worst three, from the standpoint of planes lost, were January 1944 (406 lost to the Navy, largely in raids on Rabaul), November 1943 (246 lost between Rabaul and Bougainville), and October 1942 (295 losses near Guadalcanal and Santa Cruz). Other particularly bad months for the Japs were June and July 1943 (the New Georgia campaign), and August 1942 (the initial invasion of Guadalcanal, and the Battle of the Eastern Solomons). In all of these peak months except June-July 1943 our carrier forces helped increase the total destruction.

In three other areas was the destruction of Japanese aircraft sufficiently high to warrant special notice. These were: (1) Formosa, where 477 were downed in air combat and 527 destroyed on the ground, almost entirely by carrier planes in October 1944 and January 1945; (2) the Marianas, where 751 were destroyed in air and 219 on ground, also almost entirely by carrier planes and largely in the one month of June 1944; and (3) the Bonins, where 430 Jap planes were accounted for, principally in three brief carrier raids in June-July 1944.

Over three hundred planes were destroyed in each of two other areas, the Marshalls and the Eastern Carolines, over two hundred in the Midway area and the Western Carolines, over a hundred in New Guinea and Indo China.

TABLE 26. Continued.

D. JAPANESE HOME ISLANDS

BASE, AREA, MONTH (1945)	ACTION SORTIES	SORTIES ENGAGING ENEMY AIRCRAFT	ENEMY PLANES ENGAGED		ENEMY PLANES DESTROYED			OWN LOSSES		
			Bomb- ers	Fight- ers	IN COMBAT		ON GROUND	ON ACTION SORTIES		
					Bomb- ers	Fight- ers		To Enemy A/A	Operational A/C	
<u>CARRIER-BASED</u>	<u>20,499</u>	<u>1,907</u>	<u>197</u>	<u>2199</u>	<u>149</u>	<u>805</u>	<u>1816</u>	<u>309</u>	<u>85</u>	<u>151</u>
<u>HOKKAIDO, NO. HONSHU</u>	<u>2,345</u>	<u>4</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>79</u>	<u>32</u>	<u>0</u>	<u>16</u>
July	1,461	4	2	0	1	0	26	21	0	12
August	884	0	0	0	0	0	53	11	0	4
<u>TOKYO AREA</u>	<u>7,889</u>	<u>1,002</u>	<u>95</u>	<u>1191</u>	<u>68</u>	<u>410</u>	<u>965</u>	<u>76</u>	<u>43</u>	<u>47</u>
February	2,226	886	61	1118	42	371	203	22	36	19
March	7	7	4	0	2	0	0	0	0	0
July	2,675	15	2	15	1	8	210	27	3	15
August	2,981	94	28	58	23	31	552	27	4	13
<u>CENTRAL HONSHU</u>	<u>3,381</u>	<u>220</u>	<u>35</u>	<u>146</u>	<u>32</u>	<u>47</u>	<u>301</u>	<u>71</u>	<u>5</u>	<u>24</u>
February	265	44	4	58	2	5	25	3	2	8
March	428	111	21	21	20	4	43	2	0	3
May	23	2	0	2	0	2	0	0	0	0
July	2,550	59	10	45	10	19	228	66	3	13
August	115	4	0	20	0	7	5	0	0	0
<u>KYUSHU, KURE AREA</u>	<u>6,884</u>	<u>681</u>	<u>65</u>	<u>862</u>	<u>48</u>	<u>348</u>	<u>471</u>	<u>130</u>	<u>37</u>	<u>64</u>
February	2	0	0	0	0	0	0	0	0	0
March	2,615	373	36	497	24	191	220	46	30	35
April	611	85	18	112	16	71	77	25	0	3
May	1,754	104	9	135	7	57	93	18	2	1
June	431	85	1	93	0	10	53	7	4	10
July	1,463	26	0	25	0	19	28	34	1	15
August	8	8	1	0	1	0	0	0	0	0
<u>LAND-BASED</u>	<u>1,434</u>	<u>103</u>	<u>14</u>	<u>167</u>	<u>8</u>	<u>46</u>	<u>7</u>	<u>18</u>	<u>6</u>	<u>12</u>
<u>TOKYO, CENTRAL HONSHU</u>	<u>326</u>	<u>43</u>	<u>9</u>	<u>86</u>	<u>4</u>	<u>19</u>	<u>2</u>	<u>8</u>	<u>3</u>	<u>0</u>
March	22	0	0	0	0	0	0	2	0	0
April	27	0	0	0	0	0	0	0	0	0
May	76	17	7	24	4	5	1	5	1	0
June	73	13	2	32	0	8	0	1	0	0
July	90	5	0	6	0	0	0	0	1	0
August	38	8	0	24	0	6	1	0	1	0
<u>KYUSHU, KURE AREA</u>	<u>1,108</u>	<u>60</u>	<u>5</u>	<u>81</u>	<u>4</u>	<u>27</u>	<u>5</u>	<u>10</u>	<u>3</u>	<u>12</u>
March	4	0	0	0	0	0	0	0	0	0
April	59	3	0	2	0	1	5	0	0	0
May	50	16	1	32	1	11	0	1	2	0
June	199	23	2	14	1	5	0	2	0	2
July	577	18	2	33	2	10	0	6	1	8
August	219	0	0	0	0	0	0	1	0	2
GRAND TOTAL	21,933	2,010	211	2366	157	851	1823	327	91	163
See note to Part A of this table										

See note to Part A of this table.

(See notes on pp. 69-70)

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TABLE 27. JAPANESE AIRCRAFT DESTROYED IN AERIAL COMBAT
BY ALL NAVAL AND MARINE AIRCRAFT
By Type and Allied Code Name, Monthly

MONTH	SINGLE-ENGINE FIGHTER OR RECONNAISSANCE										SINGLE-ENGINE BOMBER				
	ZEKE HAMP	OS- CAR	TONY	TOJO	NATE	FRANK	JACK	GEORGE	MYRT	OTHER & U/I	VAL	JUDY	KATE	JILL	OTHER
1941-December	0									1			0		
1942-January	1									0			0		
February	1									10			1		
March	0									0			0		
April	0									0			0		
May	24									14	8		10		
June	26									23	20		19		
July	0									0	0		0		
August	41									13	45		7		
September	25									3	3		0		
October	121									18	38		11		
November	50									0	4		0		
December	15									0	0		0		
1943-January	47									0	4		0		
February	16									0	5		0		
March	1									0	0		0		
April	33									0	13		0		
May	15									0	0		0		
June	69									0	17		0		
July	148									0	4		0		
August	84			3						1	15		0		
September	89			4						0	10		0		
October	96			2						0	0		0		
November	127	6	16							1	60		37		
December	117	1	13							0	0		1		
1944-January	386	1	9	2						6	2	0	3	0	0
February	200	3	5	4						26	15	0	6	0	0
March	88	3	4	1						8	1	9	0	0	0
April	52	3	2	1						2	0	4	5	2	1
May	6	0	0	2						0	0	0	0	0	0
June	461	0	44	5	1					8	28	82	45	32	0
July	89	0	1	1	0					2	0	0	2	0	0
August	10	1	0	0	0					1	0	0	2	0	0
September	97	56	83	15	25					19	18	3	2	2	0
October	351	124	76	106	9		6			55	54	64	10	50	1
November	70	60	26	46	0		1		3	8	4	6	2	7	0
December	66	42	4	6	1		3		0	1	9	5	1	3	1
1945-January	73	34	21	25	0	0	1	3	1	4	19	4	1	5	0
February	151	76	40	55	17	13	1	2	5	5	14	6	3	7	0
March	122	19	10	17	1	24	9	7	14	5	6	15	3	19	1
April	361	61	43	47	46	35	16	14	15	5	304	50	27	26	29
May	100	22	42	38	37	37	6	4	6	6	61	10	3	12	5
June	42	13	20	10	8	4	3	1	0	2	18	3	0	1	5
July	6	3	8	4	0	26	0	4	5	0	2	2	0	5	1
August	19	1	1	0	0	5	3	0	6	0	0	8	2	3	7
TOTALS	3896	529	477	385	145	144	49	35	55	247	801	271	203	174	51

(See notes on p.75)

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TABLE 27. Continued

MONTH	FLOAT PLANES				TWIN-ENGINE BOMBER, FIGHTER, RECONNAISSANCE										OTHER & U/I
	RUFÉ	JAKE	PETE	OTHER & U/I	NELL	SALLY	BETTY	NICK	DI- NAH	IR- VING	FRAN- CES	LILY	HELEN	PEGGY	
1941-December				1											9
1942-January				0											0
February				0											18
March				0											1
April				0											0
May				7											0
June				2											0
July				0											0
August				4		2									27
September	9			0		16									55
October	7			16		0		3							50
November	1			9		0		16							2
December	4			0		0		0							0
1943-January	0			3		0		11							0
February	0			0		0		4							0
March	0			0		0		0							0
April	0			0		0		0							0
May	0			0		0		0							0
June	0			15		0		27							0
July	0			2	3	0		23							6
August	1	2	2	0	0	0		0							0
September	0	0	0	0	1	0		4							0
October	0	0	0	1	2	0		9							0
November	5	0	2	2	0	2		27						1	1
December	4	0	2	2	0	0		10					0		0
1944-January	0	2	0	1	1	0		8	0	0		0	0		0
February	11	7	7	5	0	0		15	1	0		2	0		4
March	1	0	0	1	0	0		14	0	0		0	0		1
April	0	0	0	0	0	7		18	3	1		0	1		6
May	0	1	0	0	0	1		9	0	0		0	0		0
June	1	15	0	0	1	3		45	2	0	9	2	2		15
July	9	1	0	0	0	0		0	2	0		0	0		5
August	0	1	0	0	0	0		1	0	1	0	0	0		0
September	0	1	3	0	1	2		16	8	10	2	3	0	1	3
October	0	25	2	2	12	29		57	17	6	7	74	35	7	14
November	1	2	1	0	1	2		8	1	3	2	10	3	0	5
December	0	12	1	1	0	4		8	2	3	6	4	5	0	1
1945-January	0	11	1	1	3	6		4	5	8	2	6	3	7	0
February	6	15	4	1	3	2		9	4	8	1	0	1	3	0
March	6	9	0	2	3	1		44	6	2	4	8	0	2	1
April	0	3	0	8	0	3		48	9	4	4	24	5	0	7
May	4	16	14	7	1	3		20	12	23	2	9	1	1	0
June	1	4	2	1	1	3		11	3	1	1	1	0	0	0
July	0	1	4	2	0	2		6	0	6	0	0	0	0	0
August	0	0	2	0	1	0		2	7	1	1	5	0	0	0
TOTALS	71	128	47	96	34	88	477	82	77	41	149	57	25	10	227

(See notes on p. 75)

TABLE 27. Continued

MONTH	FLOAT PLANES				TWIN-ENGINE BOMBER, FIGHTER, RECONNAISSANCE										
	RUFÉ	JAKE	PETE	OTHER & U/I	NELL	SALLY	BETTY	NICK	DI- NAH	IR- VING	FRAN- CES	LILY	HELEN	PEGGY	OTHER & U/I
1941-December				1											9
1942-January				0											0
February				0											18
March				0											1
April				0											0
May				7											0
June				2											0
July				0											0
August				4		2									0
September	9			0		16									27
October	7			16		0	3								55
November	1			9		0	16								50
December	4			0		0	0								2
1943-January	0			3		0	11								0
February	0			0		0	4								0
March	0			0		0	0								0
April	0			0		0	0								0
May	0			0		0	0								0
June	0			15		0	27								0
July	0			2	3	0	23								6
August	1	2	2	0	0	0	0								0
September	0	0	0	0	1	0	4								0
October	0	0	0	1	2	0	9								0
November	5	0	2	2	0	2	27						1		1
December	4	0	2	2	0	0	10						0		0
1944-January	0	2	0	1	1	0	8	0	0			0	0		0
February	11	7	7	5	0	0	15	1	0			2	0		4
March	1	0	0	1	0	0	14	0	0			0	0		1
April	0	0	0	0	0	7	18	3	1			0	1		6
May	0	1	0	0	0	1	9	0	0			0	0		0
June	1	15	0	0	1	3	45	2	0	9	2	2	2		15
July	9	1	0	0	0	0	0	2	0	0	3	0	0		5
August	0	1	0	0	0	0	1	0	1	0	0	0	0		0
September	0	1	3	0	1	2	16	8	10	2	3	0	1		3
October	0	25	2	2	12	29	57	17	6	7	74	35	7		14
November	1	2	1	0	1	2	8	1	3	2	10	3	0		5
December	0	12	1	1	0	4	8	2	3	6	4	5	0		1
1945-January	0	11	1	1	3	6	4	5	8	2	6	3	7	0	0
February	6	15	4	1	3	2	9	4	8	1	0	1	3	0	0
March	6	9	0	2	3	1	44	6	2	4	8	0	2	2	1
April	0	3	0	8	0	3	48	9	4	4	24	5	0	7	3
May	4	16	14	7	1	3	20	12	23	2	9	1	1	1	0
June	1	4	2	1	1	3	11	3	1	1	1	0	0	0	0
July	0	1	4	2	0	2	6	0	6	0	0	0	0	0	0
August	0	0	2	0	1	0	2	7	1	1	5	0	0	0	0
TOTALS	71	128	47	96	34	88	477	82	77	41	149	57	25	10	227

(See notes on p. 75)

TABLE 27. Continued

MONTH	TOTALS, BY MAJOR TYPES							TOTAL, ALL TYPES
	SINGLE- ENGINE FIGHTER	SINGLE- ENGINE BOMBER	FLOAT PLANE	TWIN- ENGINE COMBAT	FLYING BOAT	TRANSPORT	TRAINER	
1941-December	1	0	1	9	1			12
1942-January	1	0	0	0	0			1
February	11	1	0	18	4			34
March	0	0	0	1	1			2
April	0	0	0	0	0			0
May	38	18	7	0	3			66
June	49	39	2	0	0			90
July	0	0	0	0	0			0
August	54	52	4	29	5			144
September	28	3	9	71	0			111
October	139	49	23	53	3			267
November	50	4	10	18	2			84
December	15	0	4	0	0			19
1943-January	47	4	3	11	0			65
February	16	5	0	4	0			25
March	1	0	0	0	0			1
April	33	13	0	0	0			46
May	15	0	0	0	0			15
June	69	17	15	27	0			128
July	148	4	2	32	0			186
August	88	15	5	0	1			109
September	93	10	0	5	3			111
October	98	0	1	11	0			110
November	150	97	9	31	2			289
December	131	1	8	10	2			152
1944-January	404	5	3	9	0	1		422
February	238	21	30	22	0	0		311
March	104	10	2	15	0	0		131
April	60	12	0	36	0	0		108
May	8	0	1	10	1	1		21
June	519	187	16	81	9	6		818
July	93	2	10	10	2	0		117
August	12	2	1	2	3	0		20
September	295	25	4	46	1	11		382
October	727	179	29	258	9	6		1208
November	214	19	4	35	3	7		282
December	123	19	14	33	3	9		201
1945-January	162	29	13	44	1	9		258
February	365	30	26	31	1	6		459
March	228	44	17	73	5	8		375
April	643	436	11	107	1	7		1205
May	298	91	41	73	3	5	28	539
June	103	27	8	21	0	0	0	159
July	56	10	7	14	0	2	1	90
August	35	20	2	17	0	2	0	76
TOTALS	5962	1500	342	1267	69	80	29	9249

NOTES TO TABLE 27

Table 27 shows the monthly breakdown by model and type of Japanese aircraft destroyed in combat by carrier-based and land-based aircraft combined.

If the reported identifications by Naval pilots can be accepted as generally correct, 65 percent of the Japanese aircraft destroyed in air combat were single-engine fighters, 16 percent were single-engine bombers, 14 percent were twin-engine fighters or bombers, and only 5 percent were float planes or of miscellaneous types.

The 65% of single-engine fighters may be further broken down: nearly two-thirds were Zekes, less than one-fifth were Tonys, Oscars and Nates, one-tenth were Tojos and newer types, and the small remainder were of other or unidentified types.

Over half of the single engine-bombers were the vulnerable Vals, the remainder Judys, Kates and Jills in decreasing magnitude. Nearly 40 percent of the twin-engine planes were identified as Bettys, 12 percent as Frances; eight other principal types were identified in small numbers, and over 15 percent could not be identified.

The worst month for Zekes was June 1944, when 461 were shot down by Naval planes, but all types of Jap fighters had bad months in October 1944 (727 shot down) and April 1945 (698 lost). By far the worst losses of single-engine bombers were in April 1945, when 304 Vals and 132 others went down. Twin-engine planes had their worst month in October 1944, when 258 of assorted types were destroyed in combat off Formosa and the Philippines.

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TABLE 28. AERIAL COMBAT RESULTS, INDIVIDUAL MODELS OF
OWN VS. JAPANESE AIRCRAFT, 1 SEPTEMBER 1944 - 15 AUGUST 1945

(Figures in left-hand column for each plane type are enemy planes destroyed in combat by own planes of type listed; figures in right hand column are own planes lost in combat with enemy planes of the types listed.)

ENEMY AIRCRAFT MODEL	OWN AIRCRAFT MODEL																	
	F6F		F4U, FG		FM		SB2C, TBM		PB4Y		OTHER VPB		TOTAL FIGHTERS		TOTAL BOMBERS		GRAND TOTALS	
Zeke, Hamp	1000	75	327	27	87	2	17	8	25	4	2	2	1414	104	39	14	1453	118
Oscar	396	26	46	1	38	3	14	1	15	2	2		480	30	31	3	511	33
Tony	275	11	60	2	29		4	2	5	2	1		364	13	10	4	374	17
Tojo	283	9	53	4	17	2	6		8		2		353	15	16		369	15
Frank	114	12	28	4	0		1		1		0		142	16	2		144	16
Jack	33	9	9	3	1		0		6		0	1	43	12	6	1	49	13
George	28	0	7		0		0		0		0		35		0		35	
Myrt	36	0	19		0		0		0		0		55		0		55	
Nate	59	1	82	1	1		0		0		2		142	2	0		142	2
U/I S/E VF*	90	6	3		10		2	5	4	3	1	3	103	6	7	11	110	17
TOTAL S/E VF	2314	149	634	42	183	7	44	16	64	11	10	6	3131	198	118	33	3249	231
Val	215		187	2	88		5		12		2		490	2	19		509	2
Judy	134	1	36	1	5		0		1		0		175	2	1		176	2
Kate	26		13		4		1		7		3		43		11		54	
Jill	105		23		7		0		3		2		135		5		140	
Sonia	21		7		1		0		2		0		29		2		31	
Other VB-VT	14	1	5		0		0		0		0		19	1	0		19	1
TOTAL VB-VT	515	2	271	3	105		6		25		7		891	5	38		929	5
Jake	50		6		7		3		31		2		63		36		99	
Pete	18		8		0		0		8		0		26		8		34	
Rufe	15		0		0		1		2		0		15		3		18	
Rex	0		6		0		0		3		0		6		3		9	
Paul	6		1		0		1		2		0		7		3		10	
Dave	0		3		0		0		2		1		3		3		6	
TOTAL F/P	89		24		7		5		48		3		120		56		176	
Betty	185	6	29	1	2		3		14		0		216	7	17		233	7
Dinah	48		23		1		0		3		0		72		3		75	
Frances	118		7		18		0		1		0		143		1		144	
Irving	20		2		9		1		0		0		31		1		32	
Nick	46	1	16		4		5		3		0		66	1	8		74	1
Sally	33		5		16		1		2		0		54		3		57	
Helen	12		9	1	0		0		0		0		21	1	0		21	1
Lily	27		3		21	1	2		0		0		51	1	2		53	1
Nell	18		0		1		0		7		0		19		7		26	
Peggy	6		4		0		0		0		0		10		0		10	
U/I T/E Combat	17	1	0		9		0		1		0		26	1	1		27	1
TOTAL T/E COMBAT	530	8	98	2	81	1	12		31		0		709	11	43		752	11
FLYING BOATS	17		0		0		1		8		1		17		10		27	
TRANSPORTS	36		3		1		3		28		1		40		32		72	
TRAINERS	17		12	1	0		0		0		0		29	1	0		29	1
UNIDENTIFIED*	0	1	0	1	0	1	0	4	0	2	0		0	3	0	6	0	9
GRAND TOTAL	3518	160	1042	49	377	9	71	20	204	13	22	6	4937	218	297	39	5234	257

* 27 F6Fs shot down by unidentified VF, 14 F6Fs lost to unknown types of aircraft, and 11 F4Us shot down by unidentified VF, have been arbitrarily prorated among the various single engine enemy fighter types in accordance with the number of each reported to have been shot down by F6Fs and F4Us, and the number of F6Fs and F4Us reported shot down by each. Similar proration is not possible for other plane types.

NOTES TO TABLE 28

Table 28 is a combination of two tabulations. It covers only the period from 1 September 1944 to 15 August 1945, during which period were destroyed 5,234 airborne planes, or 57%, of the total Jap planes credited to Naval aircraft during the war. The first line of figures in each column is the number of Jap planes, of the model and type listed at the left, destroyed in combat during this 12-month period by Navy and Marine carrier and land-based planes of the model or type listed at the top. The second line of figures is the number of Navy and Marine planes lost during the same period in encounters between the same types or models of aircraft, based on a special study of our own aircraft losses.

In the case of F6F and F4U losses the bulk of those reported as destroyed by unidentified types, amounting to one-fourth of the total, have been prorated as noted in the footnote to the table. This, plus the errors in identification which may normally be expected in the action reports, results in a decrease of accuracy which leaves something to be desired, but permits comparisons which are believed sufficiently near the truth to be of considerable value and interest, and are in any event the best available.

The result of comparing each pair of figures is to produce a combat ratio for air combat between each two models or types of planes involved - subject to the limitation on accuracy noted above.

The F6F appears to have shot down $15\frac{1}{2}$ single-engine Jap fighters for each F6F destroyed in combat with them. Against the Zeke the F6F ratio was over 13-to-1; against Oscar over 15-to-1; against Tojo (probably including a large proportion of misidentifications) over 31-to-1. Against the most advanced types the F6F did less well; $8\frac{1}{2}$ -to-1 against the Frank, Jack and George combined.

Unusual is the loss of 6 F6Fs in combat with Betty; however, with respect to enemy twin-engine planes as a whole the ratio was 66-to-1, and against all other bomber types combined was 225-to-1.

The F4U nearly matched the F6F performance during this period, with a 15-to-1 ratio against single-engine fighters, and 12-to-1 against Zeke. The F4U, however, included a relatively large number of obsolete Nates among its kills, and while its record against Oscar and Tony was superior to the F6Fs', the F4U scored only 13-to-1 against Tojo, and only 6-to-1 against Frank, Jack and George combined.

The phenomenal FM leads all fighters during this period, with a 26-to-1 ratio over Jap single-engine fighters, only 2 losses sustained in destroying 87 Zekes, and only two losses in downing 194 bombers and miscellaneous types.

Bomber losses, as might be expected, were higher against enemy fighters, though the PB4Y reported destroying over 5 fighters for every PB4Y combat loss. No Navy bombers were lost, however, in the combats which resulted in destruction of 179 enemy bombers, float planes, and miscellaneous types during this period.

The catholic taste of the PB4Ys during the 12 months may be noted. They accounted, in all, for planes of 24 different identified combat types, plus transports and unidentified types, and they destroyed over 15 Jap planes for each of their own losses.

From the Japanese angle, the ineffectiveness of their air forces against the Navy during this period is clearly shown. They lost 3,131 fighters in destroying 198 of ours, and expended 118 of their fighters in destroying only 33 of our bombers. Even their best fighter, Jack, sustained 49 losses in destroying 13 Navy planes.

The Japanese single-engine bombers knocked down only one of our planes for every 186 of their losses (our VSB and VTB enjoyed a $3\frac{1}{2}$ -to-1 advantage over the Japs). Their twin-engine bombers and fighters did little better, losing 68 planes for every kill they made. Their flying boats and float planes made no kills at all to offset their 203 losses. Nor did their 72 transports lost - 40% of which were destroyed by our roving search planes. In all, the Japs lost over 20 planes for each of ours destroyed in air combat during this period.

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TABLE 29. ANTI-AIRCRAFT LOSS AND DAMAGE,
By Plane Model, Carrier-Based and Land-Based, by Years.

BASE, PLANE MODEL	1941-42							1943						
	SORTIES ATTACKING TARGETS		LOSS AND DAMAGE TO ENEMY AA		PERCENT OF SORTIES MEETING AA		% LOST OF A/C HIT	SORTIES ATTACKING TARGETS		LOSS AND DAMAGE TO ENEMY AA		PERCENT OF SORTIES MEETING AA		% LOST OF A/C HIT
	With AA		Dam-		Dam-			With AA		Dam-		Dam-		
	Total	Present	Lost	aged	Lost	aged		Total	Present	Lost	aged	Lost	aged	
	CARRIER	1,976	1,238	47	66	3.8	5.3	42	4,217	3,632	44	485	1.2	13.4
F4F	456	169	15	14	8.9	8.3	52	107	86	2	6	2.3	7.0	25
F6F	0	0	0	0	0	0	0	1,481	1,293	24	187	1.9	14.5	11
SBD	1,209	817	18	37	2.2	4.5	33	1,147	973	6	89	0.6	9.1	6
SB2C	0	0	0	0	0	0	0	237	213	2	31	0.9	14.6	6
TBF	142	83	3	4	3.6	4.8	43	1,245	1,067	10	172	0.9	16.1	5
TBD	169	169	11	11	6.5	6.5	50	0	0	0	0	0	0	0
LAND-BASED	1,564	804	30	51	3.7	6.3	37	11,944	9,090	86	433	0.9	4.8	17
F4F	224	113	3	13	2.7	11.5	19	56	24	4	3	16.7	12.5	57
F4U	0	0	0	0	0	0	0	1,053	427	18	23	4.2	5.4	44
F6F	0	0	0	0	0	0	0	131	66	2	6	3.0	9.1	25
SBD	1,149	550	18	15	3.3	2.7	55	6,022	4,941	23	215	0.5	4.4	10
SB2U	17	17	1	3	5.9	17.6	25	0	0	0	0	0	0	0
TBF	135	101	2	16	2.0	15.8	11	4,077	3,249	31	116	1.0	3.6	21
PBY	39	23	6	4	26.1	17.4	60	184	131	2	33	1.5	25.2	6
PB4Y	0	0	0	0	0	0	0	217	156	2	31	1.3	19.9	6
PV	0	0	0	0	0	0	0	204	96	4	6	4.2	6.3	40
1944														
CARRIER	69,752	44,684	657	2060	1.5	4.6	24	61,951	41,943	680	1808	1.6	4.3	27
F6F	33,592	21,019	283	817	1.3	3.9	26	21,965	16,338	233	678	1.4	4.1	26
F4U, FG	0	0	0	0	0	0	0	7,993	5,982	137	201	2.3	3.4	41
FM	4,274	2,137	22	42	1.0	2.0	34	7,651	3,396	40	130	1.2	3.8	24
SBD	3,539	2,526	16	131	0.6	5.2	11	0	0	0	0	0	0	0
SB2C, SBW	12,341	9,328	162	424	1.7	4.5	28	6,555	4,870	104	215	2.1	4.4	33
TBF, TBM	16,006	9,674	174	646	1.8	6.7	21	17,787	11,357	166	584	1.5	5.1	22
LAND-BASED	59,716	31,614	248	1646	0.8	5.2	13	48,068	16,578	190	808	1.1	4.9	19
F4U, FG	27,498	10,868	110	422	1.0	3.9	21	18,047	7,208	84	211	1.2	2.9	28
F6F	1,587	774	4	31	0.5	4.0	11	1,191	269	7	6	2.6	2.2	54
U/i VF	51	27	0	0	0.0	0.0	0	27	24	0	0	0.0	0.0	0
SBD	19,713	13,667	59	591	0.4	4.3	9	17,013	4,602	13	97	0.3	2.1	12
SB2C, SBW	0	0	0	0	0	0	0	2,195	949	3	53	0.3	5.6	5
TBF, TBM	4,109	2,765	27	251	1.0	9.1	10	1,530	848	9	44	1.1	5.2	17
PBY	993	308	6	59	1.9	19.2	9	55	29	1	9	3.4	31.0	10
PBM	37	18	2	14	11.1	77.8	13	387	169	11	48	6.5	28.4	19
PB2Y	76	46	0	14	0.0	30.4	0	36	24	1	5	4.2	20.8	17
PB4Y	1,068	512	15	101	2.9	19.7	13	1,769	953	43	269	4.5	28.2	14
PV	1,660	1,112	14	94	1.3	8.5	13	569	304	11	41	3.6	13.5	21
PBJ	2,884	1,512	11	69	0.7	4.6	14	5,249	1,199	7	25	0.6	2.1	22
U/i VPB	40	5	0	0	0.0	0.0	0	0	0	0	0	0.0	0.0	0

2. ANTI-AIRCRAFT LOSS AND DAMAGE

Data on number of planes lost to enemy A/A fire, from which can be calculated loss rates in terms of action sorties flown, will be found in many of the preceding tables of this report. In Table 29, are additional data on number of planes damaged by enemy A/A, and loss and damage rates in terms of (a) Number of sorties attacking targets, and (b) Number of sorties attacking targets in the face of enemy A/A fire.

On first glance at Table 29 the predominant impression will be the diversity of the figures. It may be granted that some of the smaller figures involved are affected by chance (and possibly poor reporting). Yet upon closer inspection a number of fairly consistent relationships become visible:

(Cont. on next page)

(a) Loss rates to enemy A/A were highest in 1942, and generally lowest in 1943, increasing slightly from then until the end of the war. The 1942 rates reflect the predominance of large enemy warships among the targets for that year, figures for 1943 and subsequent years the relatively lower but increasing effectiveness of Japanese land A/A. Actually enemy A/A material improved and increased in volume at a far greater rate, but this trend was offset by the improved performance characteristics of Naval aircraft, and improved tactics against A/A.

(b) Loss rates for carrier-based aircraft were consistently higher than for land-based aircraft, despite inclusion in the latter of the relatively vulnerable VPB. The reason is that land-based aircraft generally were assigned to attack the less well-defended rear area targets, already well beaten down by the carrier forces, such as those in the Marshalls and Philippines. Also their campaigns against such heavily defended targets as the Rabaul area were of long duration, and by the later stages enemy A/A guns had been greatly reduced in number and ammunition supplies depleted. Carrier aircraft, on the other hand, were constantly reaching out toward the most heavily defended targets, pressing their attacks close to wipe out such small and vital targets as grounded aircraft, warships and merchant vessels, and seldom staying long enough to enjoy the benefits of the reduced A/A defenses resulting from their attacks.

(c) The lesser effectiveness of enemy A/A against our land-based planes did not result from an appreciably lower rate of hits per sortie attacking defended targets, but from a generally lower lethal effect of hits. A smaller percentage of the land-based planes hit by A/A was lost. In part, also, the lower rate of losses for land-based planes reflected the extensive use of the less vulnerable SBD, while the carriers were shifting to the highly vulnerable SB2C.

(d) The SBD, carrier-based or land-based, had consistently the best record of any plane model. It generally received slightly less hits per sortie than other planes, and in addition had the lowest ratio of losses to hits of any single-engine plane.

(e) The F6F appears to have had considerable advantage over the F4U when flown under the same conditions. Receiving about the same number of hits per sortie in comparable operations, the F6F had a far lower rate of loss per plane hit.

(f) The TBM loss rate appears to have been lower than that of the SB2C. It received more hits per sortie, but showed greater ability to survive hits. Both SB2C and TBM were somewhat more subject to A/A loss than fighters.

(Note that in the above statements allowance has been made for non-comparable employment of the various plane models, not shown in the table, and particularly for the heavy use of the TBM in CVE support operations against targets whose A/A defenses had already been well reduced. The TBM A/A loss rate on fast carriers was 50% greater than on CVEs, but was still less than the fast carrier rate for SB2Cs. The following table shows loss rates per 100 action sorties for the entire war:

	CV-CVL	CVE
F6F	.87	.83
F4U	1.46	.90
FM	-	.48
SBD	.68	-
SB2C	1.43	-
TBM	1.10	.72

(g) The loss rates for VPB were generally higher than for single-engine planes, but not excessive considering the effectiveness of the minimum altitude attack tactics customarily used. The PBJ is an exception; the bulk of its attacks were made from higher altitudes against rather poorly defended targets, and its loss rate is correspondingly low.

The following table combines and summarizes the data for the principal models of both carrier-based and land-based planes for the entire war. In utilizing it, it should be noted

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that the use of F6Fs, SB2Cs and TBMs predominantly in carrier operations, and of F4Us and SBDs mainly in land-based operations tends to distort the relationships between these planes, and produces rates differing from those which would be expected from figures based on performance in comparable operations.

Plane Model	A/A Losses per 100 Action Sorties	Planes Hit Per 100 Attacks, A/A Present	A/A Losses per 100 Attacks, A/A Present	% Lost of Planes Hit
F6F	.83	5.73	1.39	24
F4U, FG	.55	4.92	1.42	29
FM	.48	4.23	1.12	27
SBD	.29	4.73	.54	12
SB2C	1.28	6.47	1.76	27
TBF, TBM	.91	7.74	1.45	19
PR4Y	1.65	28.4	3.70	13
PV	1.08	11.2	1.92	17
PBY	1.09	24.5	3.06	13
PBJ	.21	4.1	.66	16