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ANTI-AIRCRAFT STUDY

No. 13

ANTI - AIRCRAFT ACTIONS

in the

OKINAWA CAMPAIGN

18 March - 15 August 1945

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ANTI-AIRCRAFT STUDY NO. 13

ANTI-AIRCRAFT ACTIONS IN THE OKINAWA CAMPAIGN  
18 March - 15 August 1945

GENERAL

This report covers the anti-aircraft actions which occurred in the Okinawa area during the period prior to our landings on Okinawa up to the end of the war. The first actions occurred on 18 March, and enemy effort increased rapidly as our ships moved in to the landings on the first of April. More enemy planes were fired upon by our ships in the Okinawa Campaign than in any previous campaign, and there were more AA Actions in April than in any other month of the war. During this month there was an all-out attempt by the enemy to prevent us from securing our position on Okinawa. During May, the enemy effort against ships decreased by about 50 percent as compared to April, and during June the number of enemy planes fired on by our ships was only about 10 percent of the number fired on during April.

Since the suicide attacks in the Philippines had caused much more damage to our ships per plane attacking than conventional bombing and torpedo attacks, it was to be expected that suicide attacks would continue to the maximum possible extent. As a matter of fact, a higher percentage of suicide planes were used in Okinawa than in the Philippines. However, both suicide and conventional attacks were less successful in the Okinawa Campaign than they had been earlier in the war. This was probably due in part to the decreasing level of training of the enemy pilots after the great attrition in the Philippines but a more important factor was undoubtedly the greater skill with which our anti-aircraft was used, as a result of previous battle experience, especially in the Philippines Campaign.

A new suicide weapon - the baka - was tried out by the enemy in April and May. This was not very effective for two reasons. In the first place, the planes which carried the bakas near enough to the ships to allow them to attack were slow and extremely vulnerable to the CAP and consequently only a small number of bakas were brought near enough to be launched at ships. Secondly, although the very high speed of the baka made it a very difficult AA target, it was apparently very difficult to maneuver, so that even when not deflected by AA, it often failed to hit the target ship.

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Detailed results of the Okinawa anti-aircraft actions are given below. Certain comparisons are made with the results of the Philippines Campaign. Further comparisons can be made by reference to ORG Report 49 (1 June 1945), Anti-Aircraft Action in The Philippines.

ENEMY EFFORT

Table 1 give a good measure of enemy effort during the period under consideration. Numbers of planes fired on by ships are given by month, for both suicide and non-suicide attacks. Since some planes which had suicide intent were shot down by AA before demonstrating their intent, the number of suicide planes includes not only all planes which were obviously making suicide dives but also an appropriate fraction of the planes shot down at a distance, based on the ratio of known suicide to known non-suicide planes attacking. Details of the method of calculating the most probable number of suicide and non-suicide planes are given in ORG Report 49 (page 2). Total planes fired on in the Philippines Campaign are given for comparison.

TABLE 1

Number of Planes Fired on by Ships

	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Total</u> <u>For</u> <u>Okinawa</u>	<u>Total for</u> <u>Philippines</u>
Suicide Planes	26	393	311	54	4	5	793	364
Non-suicide planes	81	781	293	66	8	5	1234	992
Total	107	1174	604	120	12	10	2027	1356
Percentages of Suicide Planes	24%	34%	51%	45%	33%	50%	39%	26%

The tremendous scale of enemy effort is indicated by the fact that there was an increase of 49 percent in the number of planes fired at in Okinawa as compared to the large number of planes in the Philippines Campaign. 39 percent of the planes were suicide, as compared to 26 percent in the Philippines.

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this type of attack is even more striking than the decrease in the effectiveness of suicide attacks.

TABLE 4  
COMPARISON OF NON-SUICIDE ATTACKS IN  
OKINAWA AND THE PHILIPPINES

	Okinawa	Philippines
Number of Planes attacking	1234	992
Number of Ships sunk	0	5
Number of Ships damaged	24	47
Percentage of Planes destroyed	21%	15%

Table 5 gives the results of non-suicide attacks in the Okinawa Campaign. Only those planes in incidents containing no known suicide planes are considered (see ORG Report 49, Pg. 11).

TABLE 5  
NON-SUICIDE PLANES

(1) Month	No. A/C Fired at (2)	Planes Shot Down (3) S-P-D	AA Success (4) (3 <sub>s</sub> ) ÷ (2)	No. A/C Damaging Ships (5)	% A/C Doing Damage (6)
Mar.	74	13-1-0	18%	5	7%
Apr.	700	152-19-37	22	8	1%
May	269	74-8-5	27	3	1%
Jun	65	15-1-0	23	0	0
Jul	6	1-0-0	17	0	0
Aug	5	1-0-0	20	0	0
Total	1119	256-29-42	23%	16	1.4%

Table 6 gives the results by time of day. Only those cases for which the time of the attack is known are included. Note that 63 percent of the attacks were at night.

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TABLE 6

(1)	<u>NON-SUICIDE PLANES</u>		
	No. A/C Fired at (2)	Planes Shot Down (3) S - P - D	AA Success (4) (3s) ÷ (2)
Day	236	85-4-10	36%
Twilight	174	49-6-8	28%
Night	701	121-19-23	17%

A comparison between the effectiveness of non-suicide attacks in the Mariannas, the Philippines, and Okinawa is given below in Table 7. The drop in effectiveness in Okinawa is very apparent.

TABLE 7

EFFECTIVENESS OF NON-SUICIDE ATTACKS

	MARIANNAS	PHILIPPINES	OKINAWA
1. Number of planes.	313	845	1119
2. Average number of planes per ship sunk.	313	211	- (no ships sunk)
3. Average number of planes per ship sunk or damaged.	29	24	70
4. Percentage of planes which damaged ships.	3.5%	4.4%	1.4%
5. Percentage of planes shot down by AA.	20%	18%	23%

SUICIDE VS. NON-SUICIDE ATTACKS

The relative effort expended by the enemy in suicide and conventional attacks has been shown in Table 1. Table 8

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shows the cost to the enemy in both types of attack per ship sunk or damaged.

TABLE 8

COST TO ENEMY IN BOTH TYPES PER SHIP SUNK OR DAMAGED

(Figures refer to planes over the Task Force (a))

	Non-Suicide	Suicide
1. Average number of planes per ship sunk or damaged	51	3.5
2. Percentage of planes which damage ships.	2%	23% (b)
3. Percentage of planes lost to AA or in suicide crashes.	21%	100%
4. Average number of planes lost to AA or in suicide crashes per ship sunk or damaged.	10.7	3.5

(a) These figures have been adjusted as noted for Table 1.

(b) Only suicide hits are counted.

Since a large percentage of the planes attempting to attack our forces were shot down outside of AA range of the ships by CAP, the number of planes lost as given in Table 8 is not complete. If we assume that 60 percent of the planes which sortie are lost to CAP, then the total losses to the enemy per ship damaged is 88 planes for non-suicide attacks and 3.7 planes for suicide attacks.

GUNNERY

Table 9 gives the number of rounds fired by each type of gun in the Okinawa Campaign. Because of the uncertainty of determining which type of ammunition is responsible for each kill, no attempt has been made to assign kills to ammunition types and to compute rounds per bird. However, such calculations have been made for a period which covers the Okinawa actions almost exclusively and will be found in CominCh Information Bulletin #29 (Anti-Aircraft Action Summary for World War II).

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