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REMARKS TAKEN FROM ACTION REPORTS FOR YORKTOWN AIR GROUP IN
CORAL SEA ENGAGEMENT.

1. The following remarks are taken from Action Reports for U.S.S. YORKTOWN Air Group in Coral Sea engagement:

(a) VB-5 dive bombing attack on ships in Tulagi Harbor:

"Telescope sights and windshields fogged very heavily during diving. Started to fog at 7,000 feet. Many pilots were forced to release high because of this." Again on May 8 the same squadron reported telescope sights fogged severely during diving, as a result of which bombing accuracy was considered to have been reduced by 75%. Again on attack May 8 by same squadron, VB-5, all telescope sights and windshields fogged heavily during last part of dive and after pull-out.

(b) Pilot of VF-42 in attacking a type 97 Kawanishi flying boat remarks:

"The enemy was firing out of a rectangular waist hatch positioned like the blisters on our PBY-5. Apparently he could not fire forward of the beam from this position."

(c) May 7 - VS-5 made diving attack on enemy CV with 17 SBD-3's. One bomb release failed to function during attack.

(d) Report of VF-42, Combat Air Patrol, (Lt.Cdr.Flatley)

"At 1750 on the evening of May 7, 1942 I took off from the U.S.S. YORKTOWN to investigate Radar contacts to the west of the ship. Radio silence was not in effect. The F.D.O. aboard the U.S.S. LEXINGTON ordered me out with three (3) two-plane sections to effect an interception. Actually seven (7) planes were in my division. The weather was overcast with numerous squalls. We eventually made contact with enemy navy dive-bombers - Type 99. Apparently an entire squadron of these planes were intercepted originally by LEX fighters, who had already attacked by the time I arrived in the vicinity. Through a squall I could see fires of downed planes on the water. At this time I asked the F.D.O. what type of planes we could expect to contact. The C.O. of VF-2 informed me that they were enemy fighters. Just prior to re

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(4) Our surface forces remained in close contact both before and during the attack. This made the attack much simpler for the enemy aircraft. It is thought that our forces should have been separated at least 15 miles. There are sufficient light forces available to protect both carriers separately.

(5) We must have more VF aircraft on our carriers. It is suggested that immediate steps be taken to reduce the types of carrier based aircraft to two: (1) VF and (2) VSTB. Only in this manner can we carry the number of fighters necessary to protect our carriers.

(6) The F4F-3 airplane properly handled can beat the enemy carrier based fighters encountered so far. This includes type Zero. On the day of the attack on our carrier, I personally overtook a type Zero VF that tried to get away. One of my following planes fought a type Zero fighter up from 2500 to 14,000 feet. The F4F-3 started to lose at this altitude and had to run.

(7) The enemy fighters are many times as manoueverable as our own fighters."

screen showed enemy planes approaching at low altitude, possibly torpedo planes, so I was alert for their appearance. I waited a few minutes and when nothing happened I asked for information. I was then directed to climb and intercept an attack approaching above 10,000 feet. The order was late and by the time I broke through the scattered clouds at 6,000 feet the torpedo and dive bombing attack on own fleet was well developed. I headed for own forces and when about 5 miles from center of our disposition I saw Jap fighters attacking some of our planes which I took to be SBD's who were acting as an anti-torpedo plane patrol. I went to their assistance.

In the course of the ensuing engagement I shot down one Jap Zero fighter. My other three planes not being in sight I circled own force looking for enemy aircraft. Finding none I returned to the scene of my first action and found three type Zero fighters milling around. I attacked again and definitely winged one. However, I was badly outnumbered and broke off the engagement. I returned to my carrier, landed, reserviced and took to the air with four planes for combat patrol duty. We saw no more of the Japs that day.

One of my original four planes was forced down in the water during the attack but the pilot was recovered by one of our destroyers.

CONCLUSIONS:

(1) With our carrier expecting an attack one half of available VF were sent as escorts with own attack group. This left only about 16 VF to protect two carriers. It is estimated that enemy escorting VF numbered about 30. It was a grievous mistake to divide our pitifully few fighters.

(2) The few fighters that we did have were handled very poorly. The original radar contact was made with the enemy 68 miles distant. Instead of sending all fighters out to intercept at a maximum distance they were divided into at least four groups, and were dispersed at various altitudes and distances. As far as is known no fighter group intercepted the enemy before they started their attack.

(3) As leader of a group of defensive fighters I was not definitely told that enemy aircraft were on the radar screen. I was able to deduce these things and had to ask for the information. When I received it, it was too late.

(3) Own VT should approach at sufficient altitude to see their objective from a distance before deploying, if visibility conditions are desirable. About 4,000 feet.

(4) Own dive bombers arrived over the enemy formation in a cluster and circled before breaking up. If enemy VF had been on the job or if the A.A. had been more effective such tactics would have been disastrous. Own dive bombers should start attack on a clear day from a point ten miles distant and an altitude of 20,000 feet, gliding down at high speed to the push over point. This technique has been employed very effectively by the ENTERPRISE Group against VF opposition.

(5) Fighter escort tactics employed in the protection of own low flying torpedo planes which proved very effective were as follows:

- (a) TBD's left own carrier about 20 minutes before VF escort was launched. VF overtook about half way to the objective which was about 175 miles distance. This procedure conserved fuel for the VF. To assist in locating own TBD's down low an aldis lamp was used by torpedo planes as we caught up with them. During the run to the objective the VF stayed about 6000 feet above and up sun. This put us between our TBD's and the most likely direction from which an attack might develop. At the same time it allowed us to see them much more easily. Normally if the group being escorted is at any appreciable altitude above the water, I prefer to fly about 2000 feet above and abreast of them and down sun. From such a position it is much easier to observe the sun lane and the VF are in position to dive between the plane being protected and incoming enemy fighters. When up-sun there is great danger of the enemy diving past the VF before they can counter.

After the objective came in sight the escort fighter leader informed the low flying VT of the enemy disposition, bearing, course and speed.

Expecting an attack from above the escort VF increased altitude to 10,000 remaining up sun so that they could clearly see their own VT. As it turned out the VT were attacked from low altitude. However, altitude was lost very quickly in one steep spiral and enemy VF were disposed of before they could do

menced about 1200 and scored at least 6 direct hits. The carrier was burning badly when first torpedo was dropped at about 1210. I made an effort to divert a part of our torpedo planes to another target but they were already in their approach. Up to this time no enemy planes were observed. Shortly thereafter our VT were attacked by four Jap Type 96 fighters. We dove to their defense shooting down three of the enemy. The fourth ran away and was not chased. This action lasted about two minutes. None of our planes sustained any damage. We then retired and returned to our carrier.

JAP TACTICS

(1) Carrier was highly maneuverable comparing favorably with our YORKTOWN class.

(2) Enemy A.A. defense was very poor. Obviously they decided that the carrier could take care of itself if given plenty of sea room. This has considerable merit. Own carriers and DD's should not be closer than 4,000 yards.

(3) Their defensive aircraft were few in number. It was later learned that they were pursuing the LEXINGTON Air Group which had attacked first.

(4) The Jap VF were extremely maneuverable.

(5) One Jap VF ran away from own VF attack.

(6) One Jap VF attempted to lead his pursuer into cruiser A.A. fire before he was shot down.

OWN TACTICS

(1) The need for an officer in tactical command at the scene of the action was extremely apparent. It is thought that at least 8 dive bombers and 6 TBD's could have attacked the cruisers.

(2) When but half way to the objective we received a voice transmission from our own carrier giving the exact position of enemy carrier. We could have gotten along without this and it undoubtedly warned the enemy of our approach eliminating the element of surprise.

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- (4) Stay together. The Japs air discipline is excellent and if you get separated you will have at least three of them on you at once.
- (5) You have the better plane if you handle it properly and in spite of their advantage of manueverability you can and should shoot them down with few losses to yourselves. The reason for this is your greater fire power and more skillful gunnery.
- (6) Don't get excited and rush in. Take your time and make the first attack effective.
- (7) Watch out for ruses. The Japs have a method of creating smoke from their exhaust which doesn't mean a thing. Set them on fire before you take your guns off of them. They also have a method of releasing a gasoline cloud from their belly tanks.
- (8) Never hesitate to dive in. The hail of bullets around their cockpit will divert and confuse them and will definitely cause them to break-off what they are doing and take avoiding action."

(6) Attacks employed were overhead and astern approaches. The leader of own VF shot down the first plane attacked by diving in at an angle of 60 degrees and using splashes on the water as an aid in aiming. Enemy VF was not over 100 feet above water. The leader recovered above. Following VF (three in number) employed similar first approaches but flattened out and stayed close to the water. This procedure was in error although the results were excellent. It was in error because the enemy fighters are infinitely more maneuverable than our own F4F. The most effective attack against a more maneuverable fighter is to obtain altitude advantage, dive in, attack, pull up using speed gained in dive to maintain altitude advantage. The old dog-fight of chasing tails is not satisfactory and must not be employed when opposing the Jap VF planes.

(7) Jap VF tactics:

On this occasion the enemy fighters resorted to steep wing overs, rolls and loops at low altitudes. They are extremely clever acrobats and apparently have found some way to overcome the effects of "blacking-out". However, their planes can climb away from our own and it is thought that they will soon get the news. In this engagement the leader tried to overtake a Jap VF that was running for it. He climbed rapidly away without difficulty.

HINTS TO NAVY VF PILOTS:

- (1) Gain plenty of altitude before contact with enemy VF. You can lose altitude fast but you can't gain it fast enough when up against enemy VF.
- (2) Use hit and run attacks diving in and pulling out and up. If your target maneuvers out of your sight during your approach pull out and let one of the following planes get him. If you attempt to twist and turn you will end up at his level or below and will be unable to regain an altitude advantage. Following planes employ same tactics until you have destroyed the enemy one by one. Four planes is sufficient to carry out this attack. If you have others with you leave them overhead on guard.
- (3) If you get in a tough spot dive away, maneuver violently, find a cloud.

4. 97 type fighters were used in the RYUKAKU. There was no vigorous opposition on the part of these fighters experienced by bombing TWO. It is understood, however, that bombing TWO's experience differed.

5. The dispersal of the cruisers supporting the enemy carrier facilitated the attack, and opened gaps through which attacking planes could proceed homeward with impunity.

6. The evasive action of the enemy carrier also played into the hands of the attackers, rendering dive bombing attack relatively simple. By properly timing the approach to the circling motion of the carrier, the first plane can dive on the carrier is directly up and down wind. This condition actually existed in the case of Bombing TWO's attack, simplifying the matter of making a direct hit on the first impact.

7. The destruction of the RYUKAKU was so thorough that very large personnel loss can be assumed.

Conclusions pertaining to PHASE II.

1. Having been unable to locate the enemy objective within the time limitation imposed by fuel on hand, the only alternative was that of returning to the LEXINGTON. Conditions permitting, SBD's should always take off fueled to capacity.

RECOMMENDATIONS

(BOTH PHASES)

1. It is recommended that, while the SBD type dive bomber has proved a satisfactory stop gap, aircraft of superior performance be allocated to carrier squadrons as early as possible.

2. It is recommended that the 1000 lb. bomb be considered as the primary weapon, and that the allowance of 500 lb. bombs be reduced in carriers.

3. It is recommended that twin 30 calibre mounts be procured as early as possible for SBD's.

4. Recommendations for citations and awards will be included in separate correspondence.

.S.N.R., shot down an enemy torpedo plane after the torpedo had been released. 2-B-13, piloted by Ensign F.R. McDONALD, .S.N.R., in attempting to land aboard while the ship was listing to port, and while wounded in the shoulder, broke number two arresting wire and plunged over the port side of the ship. The pilot and passenger were both rescued by the quick action of the U.S.S. MORRIS.

CONCLUSIONS

A) Conclusions pertaining to PHASE I.

1. The 1000 lb. bomb is vastly superior to the 500 lb. bomb in its destructive effect upon carriers. It is believed that, conditions permitting, this type bomb should invariably be used against enemy combatant ships. When used in coordination attacks of torpedo planes, the huge splashes of the near misses and the black smoke of the hits contribute to provide a fine protective screen for the approach of the torpedo planes, thus assuring the success of the torpedo attack.

2. It is the considered opinion of Commander Bombing Squadron TWO that the destruction wrought by the LEXINGTON attack group in the attack upon the RYUKAKU was sufficient to sink that ship; and that any bombs or torpedoes expended on that ship after the completion of the LEXINGTON group attack were in excess. There was sufficient strength in the combined ORKUTOWN and LEXINGTON attack groups on May 7 to annihilate the entire Japanese disposition. There is no desire to detract from the fine performance of the combined groups; the commanders of tactical units must, however, act to shift targets when it becomes apparent that the primary objective has received fatal damage.

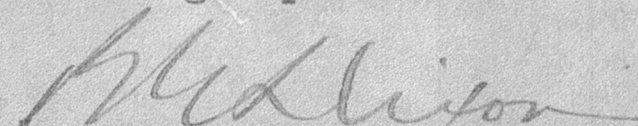
3. Japanese anti-aircraft fire is relatively ineffective and lacking in volume. No real hazard is presented to approaching dive bombers at altitude. Anti-aircraft fire from ships of enemy dispositions is apparently concentrated upon retiring planes, leaving the diving planes unopposed. More anti-aircraft fire is devoted to torpedo planes than to dive bombing.

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14 May 42

succeeding group sufficiently early to permit a headlong attack with no delay and milling about. It may be necessary for the leader group commander to scout tactically in order to find important targets. This he must do if necessary. The bomb he carries on his plane is of no importance. He should be the last to attack in any case.

The present telescopic sight has proved totally unsatisfactory. It fogs up when diving from high altitude due to the sudden change in temperature and consequent condensation on the lenses. Vision through the sight is totally obscured. This condensation likewise occurs on the windshield when even a stratum of cloud, however thin, is met in the dive. Some means of heating both the windshield and the sight must be provided. Attempts are now being made in the SBD squadron to use protected air for heating. Tests should be conducted to determine if this will expose pilot in the SBD airplane to excessive carbon monoxide. The telescopic sight is, furthermore, unsatisfactory for fixed gunnery as is fired in action. Combat occurs at such low altitudes and vision is so restricted when looking through the sight it is seldom used in attacking enemy planes. An open illuminated sight retaining the present lense graduations of speed circles is recommended. The primary mission of VSB in combat is to drop bombs therefore the present type lense graduations should be retained.

Attack Groups must have fighter protection, and there must be fighters with the dive bombers as well as with the torpedo bombers. Such protection was assigned in this action, however, fighters accompanying the dive bombers were too far above and too far astern to offer any support before or after the attack. The proper position for these fighters is considered to be as follows: (1) One half of the VF 1,000 feet above the center of the squadron, these VF can intercept an attack on the head of the squadron, then, to prevent dive bombers being decimated on pull-out, these VF must descend with the first bombers, circling about the dive if necessary. (2) The remainder of the VF 1,000 - 2,000 feet above the rear of the squadron to prevent astern attacks. VF must accompany the groups to be protected. Their mere presence in a combat area means nothing in the present day short, violent carrier group attacks.


R. E. DIXON,

Lieutenant Commander, U. S. Navy,
Commander, Scouting Squadron TWO.

100 lb. bombs caused immense columns of smoke continuously from the carrier.

In this group one bomber squadron is assigned the task of initiating its attack with the torpedo planes, in this attack was so detailed. The other bomber squadron proceeds to attack when objective is sighted. The 100 lb. bombs carried by them were to be dropped on screening vessels as the torpedo planes made their approach. However, this carrier was totally destroyed as the CA's and DD's were either well astern or ahead. In addition, the enemy fighters continued to chase the scouts as they left the scene. This effectively drew air opposition away from the torpedo planes.

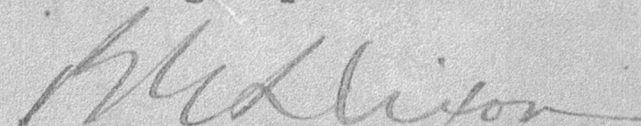
A coordinated group attack is obviously the most effective type of attack. In this instance the attack was devastating to the enemy, it being doubtful that there were any survivors. However, an attack can be so successfully coordinated as this one was possible as long as sight contact within the group can be maintained. With the present torpedo plane, TBD, this limits the speed of approach to 10 knots, whereas the SBD type can easily approach at 140 knots. This delay will prove serious. Likewise, the lack of range of the present torpedo plane seriously handicaps us in that we are prevented from taking advantage of the extreme range contacts, up to 300 miles, of which our scouts are capable of establishing and maintaining. A modern torpedo plane is a first necessity.

The necessity of having a group commander in the air at the time of attack is more apparent than ever before. If two or more groups are attacking targets in the same vicinity one officer must exercise total command of the combined groups otherwise proper coordination cannot be had and, to speak bluntly, ammunition and opportunity are wasted. Our present organization should work favorably towards this end. The senior air group commander must be at the scene with the first group; he must be at the scene when the second group arrives and from his knowledge of previous attacks must be able to direct the succeeding attack. These orders must reach

the succeeding group sufficiently early to permit a headlong attack with no delay and milling about. It may be necessary for the senior group commander to scout tactically in order to find important targets. This he must do if necessary. The bomb he carries on his plane is of no importance. He should be the last attack in any case.

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