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MISSION #16

OMURA

"BUNCHBERRY 2"

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XXBOMBER COMMAND
MISSION NO. 16
DATE 11 November 1944

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Chief of Staff	
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A. G.	

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HEADQUARTERS
XX BOMBER COMMAND
APO 493

TACTICAL MISSION
REPORT

Field Orders No. 16

Mission No. 16

TARGET: OMURA AIRCRAFT PLANT
OMURA, JAPAN

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Prepared by:
Intelligence Section
XX Bomber Command

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XX BOMBER COMMAND
APO #493

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*XX Bomber Command *
* 21 Nov. 44 JDE *
*Date Initials *
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21 November 1944

SUBJECT: Report of Operations, 11 November 1944.

TO : Commanding General, Twentieth Air Force, Washington 25, D.C.

1. UNITS PARTICIPATING:

All bombardment Groups of the XX Bomber Command were ordered to participate in a daylight attack on D-day against The Omura Aircraft Plant, Omura, Japan. Groups, their locations, and their Commanding Officers were as follows:

<u>Group</u>	<u>Rear Base</u>	<u>Forward Base</u>	<u>Commanding Officer</u>
40th	Chakulia	Hsinching	Col. W. H. Blanchard
444th	Dudhkundi	Kwanghan	Col. A. L. Harvey
462nd	Piardoba	Kiunglai	Col. A. F. Kalberer
468th	Kharagpur	Pengshan	Lt. Col. J. D. Edmundson

2. IDENTIFICATION OF MISSION:

a. Attack No. 16.

b. Targets Planned:

- (1) Primary Target: Omura Aircraft Plant, Omura, Japan (AAF Target No. 90.36-1627).
- (2) Secondary Target: (a) Sasebo Aircraft Factory, Sasebo, Japan (AAF Target No. 90.36-834).
(b) Point Island Storage Area, Shanghai, China (AAF Target No. 83.1-113).
- (3) Last Resort Target: Wharf Area, Nanking, China (AAF Target No. 83.1-129).

3. STRATEGY AND PLAN OF OPERATIONS:

a. Importance of Targets:

(1) Primary Target:

(a) The Omura Aircraft Plant is divided into three distinct parts; (a) The old area 2200 feet by 1800 feet extending diagonally back from the main wharfs, (b) The new south plant 2550 feet by 1010 feet extending south along the shore line, and (c) The new east plant which is a continuation of the old plant.

(b) The work involved in these three shop areas consists of repair to Zekes and Jakes, manufacture of the Pete type aircraft as well as the manufacture of the new carrier-borne attack plane Grace. Engines are likewise repaired and built at the Omura Plant.

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(2) Secondary Target (Sasebo):

(a) The Sasebo Aircraft Factory, which assembles perhaps 1% of all Japanese aircraft, is primarily devoted to manufacturing float planes (Petes) for the Navy and to producing engine mounts and small parts. The latter are probably supplied to the large Omura Aircraft Plant nearby.

(b) Destruction of this target should have a rather immediate effect on the front-line strength of Naval floatplanes, although this effect would be of short duration unless the buildings containing jigs and machine tools suffered bomb strikes. The jigs and machine tools are custom made and require up to six months for replacement.

(3) Secondary Target (Shanghai):

(a) Point Island, Shanghai is a large storage and trans-shipment point for both the Japanese Army and Navy. While not possessing the strategic importance of other objectives in Shanghai, it is vulnerable to incendiary attack, is removed from the main part of the city with its large Chinese population, and is at least 3 1/4 miles from the nearest known prisoner-of-war camp. Devastation of the Point Island Area by fire would destroy substantial quantities of military supplies and would probably cause the death of a number of enemy troops.

(4) Last Resort Target:

(a) The city of Nanking, on the Yangtze River, is one of the enemy's chief military centers in Occupied China. The city contains a number of large barracks and storage areas. The movement of troops and supplies is accomplished by the excellent transportation facilities serving Nanking. The railroad line from Tientsin terminates at Pukow, across the river from Nanking with which it is connected by ferry. Another railroad line connects Nanking with Shanghai and continues on to Wuhu and the South. Ocean-going vessels are accommodated at the Nanking wharves.

(b) All these transportation services converge in the general target area, at the north of which is the Nanking R.R. Terminal and R.R. ferry wharves. The area contains numerous large warehouses, a power plant, and along the waterfront are large pontoon wharves. Over a period of months an average of 424 cars has been observed in the Nanking rail yards (700 at Pukow) and shipping at the Nanking and Pukow wharves generally amounts to between 20,000 and 30,000 tons, although snipping activity has possibly declined recently.

(c) Damage to this target area would hamper the flow of military traffic and destroy quantities of supplies stored there.

b. Details of Planning (See Also Annex N, Field Orders):

(1) Operational Planning:

(a) Based upon information at this Headquarters as to the logistical support forecast to be available to the Command during the month of October, Mission No. 10 was originally planned to occur on 24 October as a part of the double strike of which Mission No. 13 was to form the first effort on 22 October. However, at this time the specific targets had not been designated for a determination had to be made of the relative values of steel targets, aircraft targets, and targets in support of the Pacific Operations.

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(b) At a later date Washington designated the targets, assigning The Omura Aircraft Plant as the primary target for both Missions No. 13 and 16.

(c) However, when the operations against Formosa were delayed it was necessary to inform Washington that the two missions against Omura would have to be delayed two days, thus placing them on the 24th and 26th of October respectively. But it was found that more aircraft were airborne on the Formosa raids than was previously calculated, and Washington was notified that there was only sufficient logistical support remaining in the Forward Area in October to sustain either: (a) One maximum effort of approximately 120 airborne sorties on the 25th of October, followed by a double maximum effort mission totaling approximately 200 airborne sorties on or after 10 November, or (b) On or after 27 October a reduced strength double strike totaling approximately 142 airborne sorties.

(d) It was the opinion of the Command that proposal "a" was the most expedient, but it was possible that the over-all strategic picture might be such that the Twentieth Air Force would consider proposal "b" better suited to future plans. Pending receipt of reply from Washington, planning was based on proposal "a". Fortunately, the Twentieth Air Force concurred in proposal "a".

(e) However, uncertainty as to receipt in the Forward Area of the total monthly allocation in the early part of November necessitated once more a change of plans. Washington was notified that in the opinion of the Command the best use of the available logistical support was to cancel the double strike and substitute a single-strike mission on 12 November of about 110 sorties. This was approved by the Twentieth Air Force pending clarification of the situation in the Pacific.

(f) Due to the weather situation the target date was changed at the last minute to 11 November.

(g) The actual tactical plan for this mission, known as Mission 16, was almost the same as Mission 13. Points of difference were: (1) Two aiming points (two Groups for each) were selected in order to take into account the destruction previously wrought by Mission No. 13. (2) All Groups were to carry the same bomb load rather than having the 468th carry incendiary clusters as before. Thus the time of take-off would be approximately the same as it was not necessary to have an incendiary-carrying Group arrive at the target last. (3) Nanking, instead of Hankow, was used as the last resort target in order to furnish variety and provide a target slightly nearer the route out.

(h) In order to provide the Command with better maps of the poorly mapped China Coast, the Field Orders specified that all aircraft would attempt to get pictures of this area.

(2) Determination of Bomb Load:

(a) In an attempt to secure not only a co-extensive pattern of 500 lb. G.P.'s and M-76 Incendiary Bombs, but also one in which a reasonable uniform distribution of both types of bombs could be expected, the decision was made to carry a mixed load in each plane. Demolition bombs were to be carried on the lower racks and incendiary bombs on the upper racks so that the incendiary bombs would be released last.

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(b) By means of loading M-76's in the top racks and G.P.'s in the lower racks it is possible to reduce the differential in trail between the two types of bombs. In as much as the aiming point was selected after due consideration of the size of the target, the probable bombing accuracy, and the expected dimensions of the formation pattern, it was unlikely that the difference in the ballistic characteristics of these two bombs would result in any wastage of bombs.

(c) Examination of results of previous attacks has shown that, except in rare instances, the individual points of impact of the M-76 and the G.P. will be far enough apart that the detonation of the G.P. bomb will have no appreciable deleterious effect on the incendiary action of the M-76 bomb.

(d) Analysis of the various installations within the target area, indicated that the 500-pound G.P. (TNT filled) bomb should be fused one-tenth (0.1) second nose and one-hundred (.01) second tail delay. Similar analysis showed that the M-76 Incendiary bomb should be fused instantaneous nose and non-delay tail. These fusions permitted the bombs to enter the target structures prior to activation.

(3) Bombing Data:

(a) Those aircraft not equipped with center section wing tanks were to carry a minimum of 8 bombs, and those that were equipped with the center section wing tanks were to be loaded as follows: 40th Group aircraft were to carry a minimum of 10 bombs, 444th Group 11 bombs, 462nd Group 9 bombs, and 468th Group 10 bombs.

(b) The method of bombing was to be by the salvo pattern of the 12-plane formation, and from 22,000 feet pressure altitude for the 40th Group, 23,000 feet for the 444th Group, 20,000 feet for the 462nd Group, and 21,000 feet for the 468th Group. With reference to AAF Target Illustration No. 90.36-1627 P4A, issued September 1944, the 40th and 444th Groups were to use the Southeast corner of Building No. 19 in Area A as an aiming point, and the 444th and 468th Groups were to use Building No. 4 in Area D as their aiming point. Axis of attack was to be 75° magnetic for all Groups.

(4) Route to be Flown:

(a) From the bases in the Chengtu Area all aircraft were to proceed to the Ankang Airfield (32°35'N - 109°14'E) and then to their respective first assembly points, which was 33°12'N - 118°43'E for aircraft of the 40th and 444th Groups and 33°53'N - 120°30'E for the 462nd and 468th Groups. All aircraft were to use 32°02'N - 128°25'E for their second assembly point and Oujima Island for the I.P.

(b) The aircraft were to take off from bases in the Chengtu Area at 2 minute intervals and climb, on course, to 7,000 feet pressure altitude, cruise for 30 minutes and then climb on course to 13,000 feet pressure altitude, which was designated the base altitude. The 40th and 462nd Groups were to reach Assembly Point No. 1 at base altitude plus or minus an odd thousand feet and the 444th and 468th Groups at base altitude plus or minus an even thousand feet. All aircraft were to be at their assigned bombing altitudes at Assembly Point No. 2. For purpose of assembling the 40th and 462nd Groups were to circle the left and the 444th and 468th Groups were to circle to the right.

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(c) If instrument conditions prevailed at Assembly Point No. 1, the aircraft were to proceed directly to Assembly Point No. 2.

(5) Other Provisions:

(a) Radar and K-18 photographs of the China ~~Gaps~~ ^{Coast} and potential assembly points were to be taken by all aircraft equipped with cameras.

(b) Strike photos were to be taken by all camera-equipped aircraft.

4. EXECUTION OF THE MISSION (See Annexes A and K):

a. Take-off (See Annex A, Part I)

(1) Times of take-off were planned as follows: 40th - 101912Z; 444th - 101922Z; 462nd - 101906Z; and 468th - 101908Z.

(2) Take-off was accomplished as follows:

<u>Group</u>	<u>A/C Airborne</u>	<u>First A/C Off</u>	<u>Last A/C Off</u>
40th	25	101836Z	101943Z
444th	28	101842Z	101941Z
462nd	16	101826Z	101904Z
468th	<u>27</u>	<u>101828Z</u>	<u>101938Z</u>
Totals	96	101826Z	101943Z

(3) At the time of take-off, there was an overcast layer of stratus and stratocumulus clouds between 4,000 and 6,000 feet. At 2 of the bases visibility was 4 and 5 miles, and at the other 2 it was limited to 1 - 3 miles by haze. There was a light wind from the NW.

b. Route Out (See Annex A, Parts II and III):

(1) Deviations from the planned route to the primary target were many and varied. Because the weather information indicated that the primary and secondary targets would be overcast, a radio was sent to the aircraft which were already airborne, directing them to bomb the last resort target. Those aircraft which received this message were diverted at various points along the briefed route. Of those aircraft which did not receive the message and therefor continued toward the primary target some were forced to bomb other targets because of the unfavorable weather conditions. Added to these was the usual number of aircraft that failed to reach the primary target because of mechanical difficulties.

(2) Those factors preventing many aircraft from reaching the primary target also made forming at the assembly points difficult. Of the 29 aircraft bombing the primary target only 5 bombed in formation. At the secondary target of Shanghai no aircraft were in a formation, but at the last resort target 18 of 25 aircraft were. The better performance at the last resort target may be partially attributed to better weather conditions.

c. Primary Target:

(1) Of the 96 aircraft airborne, 29 aircraft bombed the primary target at Omura. The first aircraft released its bombs at 0013Z

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and the last at 0125Z. During this interval of 1 hour and 12 minutes 223 demolition bombs (approximately 55.75 tons) and 123 incendiary bombs (30.75 tons) were dropped.

(2) Bombing altitudes varied from 18,200 feet indicated to 28,500 feet true.

(3) There were undercast layers below 22,000 feet which caused 26 aircraft to bomb by radar and 2 by the navigator's ETA. Only 1 aircraft was able to bomb visually.

d. Secondary Targets:

(1) No aircraft bombed the secondary target of Sasebo Aircraft Factory, Sasebo, Japan.

(2) Of the 12 aircraft bombing the secondary target at Shanghai, the first released its bombs at 102343Z and the last at 110320Z. During this interval of 3 hours and 37 minutes, 91 demolition bombs (approximately 22.75 tons) and 47 incendiary bombs (10.75 tons) were dropped.

(3) Bombing altitudes varied from 17,000 feet indicated to 21,700 feet indicated.

(4) Cloud coverage prevented 8 of these 12 aircraft from bombing visually.

e. Last Resort Target:

(1) Of the 24 aircraft bombing the last resort target, the first released its bombs at 102303Z and the last at 110258Z. During this interval of 3 hours and 55 minutes 208 demolition bombs (approximately 52 tons) and 98 incendiary bombs (24.5 tons) were dropped.

(2) Bombing altitudes ranged from 18,500 feet indicated to 25,000 feet indicated.

(3) Visibility was sufficiently good to permit 23 aircraft to bomb visually. One aircraft bombed by radar and the bombing method of one is unknown.

f. Targets of Opportunity (See Annex A, Part IV, page 8)

(1) Fifteen aircraft bombed targets of opportunity, and 3 of these in addition bombed one of the assigned targets. Types of targets were varied, but shipping and bridges predominated. A total of 118 demolition bombs (approximately 29.5 tons) and 44 incendiary bombs (11 tons) were dropped from altitudes ranging from 12,400 feet indicated to 23,400 feet indicated.

(2) Of the 12 aircraft bombing only targets of opportunity, 9 released their bombs visually, 2 by radar, and 1 on the navigator's ETA.

g. Route Back:

(1) Many aircraft deviated from the briefed return route because of weather conditions and the change in target while they were en route. In addition 2 aircraft landed at bases other than their home base; however, they both were able to return to their proper base the same day. Five aircraft failed to return and must be considered lost.

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(2) Landing times for these aircraft bombing assigned targets varied from 0502Z to 0956Z.

(3) Weather at the bases upon return was favorable. There was a general broken altostratus layer between 6,000 and 10,000 feet, and visibility was reported between 8 and 9 miles. At Hsinching a layer of scattered cumulus at 3,000 feet was also reported.

5. ENEMY ANTI-AIRCRAFT (See Annex B):

a. Meager and accurate to inaccurate black heavy anti-aircraft fire was reported by 10 per cent (3 out of 29) of the B-29's over the primary target at altitudes varying from 21,000 to 23,000 feet. As fire was encountered through a 10/10 undercast, the use of gun-laying radar is indicated although approximately 90 per cent of the aircraft encountered no opposition and RCM observers intercepted no possible gun-laying radar signals. All fire was encountered in the vicinity of the bomb release line, and it is believed that continuously pointed fire was being used. Reports of accuracy show no B-29's struck, 2 rocked, and 1 missed. Reports of deviations showed bursts to be level with all 3 aircraft, but ahead, abreast, and behind each of one aircraft, and to the left, in line, and to the right of each of one aircraft. No enemy aircraft were observed on the same course and altitude.

b. Heavy anti-aircraft fire was also encountered at Nagasaki (meager and accurate), Shanghai (meager and inaccurate), from a convoy 5 to 10 miles south of Saishu Island (meager and inaccurate), on the south west tip of Saishu Island (meager and inaccurate), and at Nanking, the last resort target. At Nanking, meager and inaccurate black heavy anti-aircraft fire was reported by 88 per cent (21 out of 24) of the aircraft over the target between 2303Z and 0258Z at altitudes varying from 18,500 to 25,000 feet. Deviations were most numerous below (56 per cent) and to the right (45 per cent), while those ahead and behind were evenly divided with 44 per cent each. It is believed that this was continuously pointed fire.

c. Automatic weapons fire was also encountered over Nanking (meager and inaccurate), from the convoy south of Saishu Island (meager to moderate and inaccurate), over the Fengpu railroad bridge at 32°59'N - 117°22'E (meager and inaccurate), and in the vicinity of Szeyang at 33°47'N - 118°45'E (moderate and inaccurate).

d. Possible phosphorous anti-aircraft bursts were observed over Nanking, 3 from 19,200 feet and 1 from 25,000 feet.

e. Four barrage balloons were observed in the Nanking vicinity at approximately 5000 feet altitude.

f. Two possible high altitude balloons were sighted over the China coast at 33°00'N - 121°20'E at approximately 14,000 feet.

g. No attempt to blackout was observed in Occupied China, which was crossed before dawn.

h. Based on RCM reports it is believed that the enemy had prior warning of the attack. Intercepts were received from 110°E to the primary target on the route out and upon return to the same longitude.

6. ENEMY AIR OPPOSITION (See Annex C):

a. Enemy air action was rated weak and ineffectual. Twenty-two B-29's of the 91 reporting met a total of 65 encounters, the great majority of which were on the route back, away from the principal target areas.

b. Of 5 B-29's lost or missing, none are known to have been caused by enemy air action. Three B-29's were damaged, and claims against enemy aircraft were 2 destroyed, 2 probably destroyed and 2 damaged.

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c. Twelve coordinated attacks were reported, accounting for 42 of the total encounters (65%). This is an unusually high percentage.

d. The majority of attacks were from the frontal quarter (32%), with the right side running a close second with 29 per cent, the rear quarter next with 20 per cent, and the left side last with 19 per cent. Of attacks on all quarters, 46 per cent were high, 17 per cent were level, and 37 per cent were low.

e. Enemy pilots opened fire in 66 per cent of the encounters, and B-29's in 83 per cent. Japanese pilots were aggressive, with 67 per cent of their fire opened at ranges under 1000 yards, and 41 per cent of the encounters pressed to 100 yards or less, with many as close as twenty-five feet.

f. One aerial bombing attack was reported. Bombs similar in shape to U.S. practice bombs but judged to weigh about 60 pounds were employed, but they dropped well in front of the B-29 without exploding. There were no reports of phosphorous bombs, nor were any unusual tactics, new aircraft or rockets observed.

g. Several reports of evasive action against enemy aircraft included gaining and losing altitude, turning in to enemy fighters, and increasing speed.

7. WEATHER (See Annex D):

a. As a result of the weather prevailing over Omura a message directing the attack to Nanking was dispatched by means of ground-air communications to the aircraft en route to the target. A number of aircraft, particularly in the 468th Group, failed to receive the message and proceeded to Omura, where the weather precluded visual bombing. The weather encountered also caused five aircraft to bomb the secondary target at Shanghai and five to bomb targets of opportunity. One aircraft was forced to jettison its bombs because of adverse weather.

b. Storm conditions over Omura not only made visual bombing impossible but also made radar bombing difficult. These unsatisfactory conditions were the result of a typhoon that passed to the south and east of the target. The typhoon which was first reported at midnight of 9 November, was forecast to move in a direction that would not affect the target area. At midnight on 10 November, it was reported to be in a position that would affect the target area, no matter what its movements. This information was evaluated, and, as a result the change in targets was ordered.

c. Navigation, although for the most part satisfactory, was hampered by extremely high wind velocities and variation from partial overcast-undercast conditions to complete instrument weather. The high static level as a result of the storm conditions hampered reception and contributed to the failure of some aircraft to receive the message diverting the attack.

d. Severe icing also had an adverse effect upon the accomplishment of the mission. One aircraft is reported to have crashed as a result of these conditions and radio equipment malfunctions were numerous for the same reason.

8. COMMUNICATIONS (See Annex E):

a. In many respects normal communications procedures worked more efficiently in this mission than in any other. In regard to the transmission and reception of the message diverting the attack, however, communications were almost a total failure. Contributing factors are believed to be: (1) the use of a sequence of communications procedures with which communications personnel had had no previous tactical experience; (2) a high static level; (3) considerable delay between the time the message left the Command Post and the time actually broadcast by the Group stations; and (4) personnel and equipment failures.

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b. Procedures with which the combat crews were thoroughly acquainted were excellently handled despite the wide dispersal of aircraft and the consequent increase in communications traffic. Aids to air navigation were used to a great extent and to good effect. Requests for D/F aid numbered 26, 16 of which were rated at Class I and 3 more as Class II.

c. All Groups reported interference near their assigned frequencies but it was of no significance except to one Group. With minor exceptions, none of this interference is thought to have been due to enemy jamming.

d. Except for one aircraft that sent a message in the clear announcing its intention to proceed to an alternate base, no violations of cryptographic security were logged.

e. Thirty-one aircraft reported one or more malfunctions of communications equipment, a great many of which were the result of the loss in flight of antenna due to storm conditions and icing.

9. RADAR (See Annex F):

a. Due to the atmospheric conditions over the target area, radar bombing was performed by a large percentage of aircraft on this mission. Storm conditions over Omura made visual bombing impossible and radar bombing difficult. Thirty-three aircraft (43%) bombed all targets by radar.

b. Many excellent radar navigational check points were identified at usable ranges. Annex F, Section II, Table C lists a number of these check points. The average range in nautical miles of identification of the various targets has also been given.

c. Radar-scope photographic results were disappointing. The number of pictures returned was few with only four sets usable. There were no sets of pictures tracing the bombing run.

d. Serviceability of the radar systems was excellent both at take-off and over the target area. Ninety-two per cent of the AN/APQ-13 systems were operational over the target areas. There were no airborne malfunctions of the auxiliary radar equipments.

e. Fighter control of the forward area reported the best IFF interrogation to date.

10. RCM (See Annex G):

a. RCM activities were limited to searching for enemy early warning radar en route to the target and for radar fire control equipment over the target. The first intercepts were the Japanese Army early warning "CHI" type sites located at Shasi, Wuchang and Yochow. Our aircraft were tracked from 118° longitude to the China Coast by "CHI" type sites at Nanking and Kaoshun. Two Mark 1 model 3 sites were located in the Shanghai area. Saishu Island was quite active, with some "CHI" type, and Mark 1 models 1, 2, and 3 sites, possibly of naval origin. In the Danjo and Goto Archipelago group several Mark 1 model 1 type radar signals were intercepted. Radar intercepts over the target were unsatisfactory due to the frequency coverage and, to a severe electrical storm.

b. Keyed CW interference on the secondary air-ground frequency was reported by 2 aircraft. A jamming signal on the primary air-ground frequency was reported, an analysis of which is given in Annex G.

c. Three equipment failures were reported, one each of an O-10/APA-6X oscillator, an AN/APA-6 pulse analyzer, and a PE-218D inverter.

11. CENTRAL STATION FIRE CONTROL AND GUNNERY (See Annex H):

a. The mission is considered satisfactory in regard to gunnery. Total rounds of ammunition used numbered 22,550, of which 11,780 rounds were fired in test firing and 10,770 in combat. Out of a total of 430 turrets, thirteen malfunctions of the CSFC system were reported and out of a total of 860 50-cal. machine guns, 9 malfunctions were reported.

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b. This mission marked the first use of an improved procedure for defense against frontal attacks. This procedure involved presetting the computer for 1000 yards in the conventional manner, and, when the enemy aircraft filled the reticle at this range, immediately turning the range wheel to 250 yards and starting to fire. Keeping the center dot on the nose of the fighter.

12. CAMERAS AND PHOTOGRAPHS (See Annex I):

a. Ninety-one cameras of the K-18, K-20 and K-22 type were installed in aircraft scheduled to take part in the mission. Of these (based on incomplete reports) 48 photographed the primary target, returning 279 usable negatives limited by unfavorable weather conditions over all targets.

b. Three photo reconnaissance missions were flown. The first, executed on 12 November, secured no photographs of its objective, Nanking, because of 10/10 cloud coverage. The second, flown over Nanking on 1st November, and the third, flown over Omura on 17 November, secured damage assessment photos. Weather conditions on both missions were favorable. No enemy air opposition was met. Antiaircraft at Nanking was moderate and inaccurate; and over Omura moderate to intense and inaccurate opposition was encountered.

13. BATTLE LOSSES AND BATTLE DAMAGE (See Annex J):

a. There were no known combat losses resulting from this mission. Four out of the five aircraft lost on the mission itself are unaccounted for, however, and it is not known whether these losses resulted from enemy action, mechanical difficulties, or other reasons. One of the currently unaccounted for is believed to have made a safe landing, but no details are available as of the time of this report.

b. Only 4 aircraft suffered battle damage, 3 from enemy aircraft and 1 from enemy antiaircraft.

14. FUNCTIONING OF EQUIPMENT (See Annexes K and M):

a. Of the 146 aircraft on hand in the Groups, 116 were airborne from the rear area and 9 of these did not reach the forward area because of mechanical difficulties, making (together with one operational aircraft already in the forward area) a total of 108 aircraft available for the mission. Of these, 12 failed to take off. Of the 96 aircraft airborne, 28 failed to bomb Omura for mechanical reasons, 14 failed to bomb Omura for other reasons, and 25 bombed the alternate target at Nanking. Of 28 aircraft that failed to bomb Omura for mechanical reasons, 7 bombed the secondary target at Shanghai, 7 bombed targets of opportunity, 12 jettisoned their bombs, and 2 brought their bombs back.

b. There were 168 malfunctions of equipment in flight as follows: instruments - 59 (tachometers - 21, C.A.T. gages - 12, cylinder head temperature gages - 10); oil system - 33 (oil leaks - 14); fuel system - 24 (transfer system - 15); electrical system - 22 (generators - 9); power plant - 15 (engines running rough - 8); propellers - 7 (prop governors - 6); and others - 10.

c. Wide variations between individual aircraft fuel consumption, times to target, over-all flight time, and distances traveled resulted from the adverse weather and failure of some aircraft to receive the radio directive changing the target. Average fuel consumption was as follows: aircraft bombing Omura - 6410 gallons (minimum 5900; maximum - 7040; aircraft bombing Shanghai - 5850 gallons (minimum - 4550; maximum - 6700); and aircraft bombing Nanking - 5480 gallons (minimum - 4400; maximum - 6700).

15. TARGET DAMAGE ASSESSMENT (See Annex L):

a. Primary Target:

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(1) The target damage assessment report for the primary target of Omura is based upon good to excellent photography obtained on 17 November 1944.

(2) No new damage was noted within the confines of the Omura Aircraft Works. A total of 28 bombs were identified probably representing the disposition of the bomb loads of 4 aircraft. Destroyed were a barracks - type building, 2 shed - type buildings, a dwelling and 7 workers quarters. In addition damage occurred to 3 barracks - type buildings, 4 dwellings, a railroad trestle, 5 shed - type buildings, and 7 workers quarters.

(3) Since the coverage of 6 November further clearing of debris is noted in the plant area, but the appearance of the target remains virtually unchanged. No major repair work has as yet been undertaken.

b. Last Resort Target:

(1) The target damage assessment report for the last resort target of Nanking is based on good quality photography obtained on 16 November 1944.

(2) The main weight of bombs fell across the eastern section of the Tienstin - Fukow R.R. terminal with only a few scattered bombs in the west end of the yard. The railroad station received several near misses and possibly suffered damage. In the area of the station approximately 68 buildings and huts of various types were destroyed and about 65 damaged.

(3) A large power plant took a near miss and a 150 foot collier - type vessel was seen burning.

(4) A long warehouse building north of the Kiang - Pien R.R. station was destroyed and an estimated 50 native hutments were destroyed with a like number damaged.

Curtis E. Lemay
CURTIS E. LEMAY
Major General, U.S.A.
Commanding

S E C R E T

ANNEX

A

EXECUTION OF THE MISSION

- I - Information on Take-offs
- II - Details of Routes
- III - Track and Vertical Flight Path
- IV - Bombing Data
- V - Bomb Loading
- VI - Disposition of Bombs
- VII - Formations Flown
- VIII - Navigation Report
- IX - Mission Operational Losses
- X - Information on Landings

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I - INFORMATION ON TAKE-OFFS

Mission No. 16

11 November 1944

	First A/C Off	Last A/C Off	Elapsed time	No. of A/C taking off	Average take- off interval
40th	1836Z	1943Z	67 min.	25	161 sec.
444th	1842Z	1941Z	59 min.	28	126 sec.
462nd	1826Z	1904Z	38 min.	16	142 sec.
468th	1828Z	1938Z	70 min.	27	156 sec.
Overall	1826Z	1943Z	77 min.	96	48 sec.

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II - DETAILS OF ROUTES

Mission No. 16

11 November 1944

A. Planned Routes

	40th	444th	462nd	468th
Base	Hsinching	Kwanghan	Kiunglai	Pengshan
First check point	Ankang Airfield (32°35'N - 109°24'E)			
Assembly point No. 1	33°12'N - 118°42'E	33°53'N - 120°30'E		
Assembly point No. 2	32°02'N - 128°25'E (all Groups)			
Initial point	Oujima Island (32°34'N - 128°54'E)			
Target	Omura Aircraft Plant (32°55'N - 129°56'30"E)			
First return check point	33°12'N - 118°42'E			
Second return check point	Liangshan Airfield (30°42'N - 107°50'E)			
Base	Hsinching	Kwanghan	Kiunglai	Pengshan

B. Deviations from Planned Routes

1. 40th Group:

a. A/C 394 turned from the briefed course at 32°34'N - 128°54'E because of weather conditions. Proceeding to the secondary target, this aircraft bombed and returned to Hsinching by the briefed course.

b. A/C 322 turned from the briefed course at 32°40'N - 129°25'E because of weather conditions. The new course was set for Shanghai. After bombing the secondary target, the return was by the briefed route to Hsinching.

c. Between 2330Z and 2350Z 14 aircraft received a message directing that the last resort target should be struck instead of the primary target because of unfavorable weather conditions. These aircraft proceeded directly to the last resort target from approximately 32°35'N - 123°50'E. After bombing, they returned to Hsinching by the briefed route with one exception (see par. 1-d below). The following aircraft were involved in this deviation: A/C 294, 331, 396, 457, 508, 522, 290, 306, 503, 582, 303, 313, 407, 574.

d. A/C 331, after bombing the last resort target (see par. 1-c above), landed at Kwanghan due to lack of gasoline. After refueling this aircraft returned to Hsinching.

e. A/C 298 turned from the briefed course at 32°50'N - 126°45'E because of weather conditions. At 32°35'N - 121°55'E this aircraft sighted and bombed a large cargo vessel, after which it returned to Hsinching by the briefed route.

f. A/C 466 followed the briefed course to the primary target, but being unable to bomb because of weather conditions, proceeded to Saishu Island, bombing an airfield as a target of opportunity. The return to Hsinching was by the planned route.

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g. A/C 589 turned from the planned route at 32°36'N - 122°55'E because of weather conditions. This aircraft dropped its bombs on a target of opportunity at 34°02'N - 115°58'E (near Polisiea) and returned to Hsinching by the briefed course.

h. A/C 831, because of engine trouble (#18 cylinder head of #4 engine separated from barrel), jettisoned its bombs at 32°49'N - 121°34'E and returned to Hsinching by the briefed route.

i. A/C 297 returned to Hsinching after 3 hours and 25 minutes of flight because of an uncontrollable supercharger on #1 engine. Bombs were jettisoned.

j. A/C 319 returned to Hsinching after 2 hours and 46 minutes of flight because #4 engine cut out. Bombs were jettisoned.

k. A/C 237 is missing. See Annex A Part IX, "Mission Operational Losses."

2. 444th Group:

a. A/C 262 flew the briefed route to the primary target, which it bombed. The return flight was made directly to Kwanghan. The only check point observed was at 32°35'N - 118°30'E.

b. A/C 580 flew the briefed course to a point south of Kyushu Island, then proceeding on a direct course to Hungtze Lake, which was used as the I.P. to bomb the last resort target. The return was flown along the briefed course.

c. A/C 492 flew the briefed route to 32°51'N - 120°57'E, where course was altered toward the last resort target. After bombing, return was made to Kwanghan by way of 32°17'N - 117°50'E.

d. A/C 378 left the briefed route at a point approximately 60 miles from Oujima Island and proceeded directly to the last resort target. After bombing, the return to Kwanghan was flown as briefed.

e. A/C 411 flew the briefed course as far as the China coast, where it joined A/C 378 in flight to the last resort target, Liangshan and Kwanghan.

f. A/C 251 followed the planned route to 33°00'N - 123°44'E, then proceeded to the last resort target and returned to Kwanghan as briefed.

g. A/C 352 flew the briefed route for 5 hours and 16 minutes, then heading at 275° flew to 32°25'N - 121°25'E. From this point the aircraft proceeded to the last resort target, bombed and returned to Kwanghan as briefed.

h. A/C 375 left the briefed route at 33°15'N - 122°40'E, proceeded to the last resort target, and returned to Kwanghan by the planned course.

i. A/C 423 left the planned route approximately 150 miles from the primary target, flying directly to the last resort target and returned by the briefed route.

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j. A/C 292 left the briefed route to bomb the last resort target, following the planned course on return.

k. A/C 472 and A/C 507 flew the briefed course to the second assembly point, but proceeded to the secondary target because of weather conditions. Return to Kwanghan was accomplished by the briefed route.

l. A/C 324 flew the briefed course to $32^{\circ}00'N - 122^{\circ}05'E$, then proceeded to the secondary target area because pressurization could not be accomplished due to a broken nose window. However, an airfield south of the secondary target was bombed as a target of opportunity, after which the briefed course was flown to Kwanghan.

m. A/C 204 bombed a target of opportunity (a railroad bridge) at $32^{\circ}55'N - 117^{\circ}40'E$. Details of the route followed by this aircraft were not reported.

n. A/C 340 left the briefed course approximately 30 miles south of Saishu Island because of excessive oil loss from #1 engine. Bombs were jettisoned, and return to Kwanghan was accomplished by way of Hungtze Lake and the briefed return route.

o. A/C 538 followed the briefed route to the first assembly point and to $32^{\circ}20'N - 122^{\circ}40'E$. Seeing an unidentified B-29 ditching and being threatened by attack from 2 Bettys, A/C 538 jettisoned its bombs and lost altitude in an attempt to assist the distressed B-29. Return was by direct route to Kwanghan.

p. A/C 267 turned back 30 minutes after taking off, jettisoning its bombs. This action was taken because of an electrical system malfunction.

q. A/C 307 crash-landed at $32^{\circ}02'N - 108^{\circ}17'E$. See Annex A, Part IX, "Mission Operational Losses."

r. A/C 300 and 419 are missing. See Annex A, Part IX, "Mission Operational Losses."

3. 462nd Group:

a. A/C 475 followed briefed route, but because its radar was out over the primary target, proceeded to Shanghai and bombed the secondary target. Return to Kiunglai was by the briefed route.

b. A/C 456 bombed the last resort target following in general the briefed routes applicable.

c. A/C 311 followed the briefed course, but because of weather conditions bombed a target of opportunity (an airfield) on Saishu Island.

d. A/C 830 followed substantially the briefed course, but because of an inoperative oil cooler on #4 engine, bombed 3 targets of opportunity (railroad bridges) at $32^{\circ}47'30"N - 118^{\circ}01'00"E$, $32^{\circ}55'N - 117^{\circ}41'$ and $32^{\circ}57'N - 117^{\circ}25'E$. Return was by the planned route.

e. A/C 338 followed the planned course to $33^{\circ}50'N - 118^{\circ}14'E$, where it was forced to jettison its bombs and head for Laohokow because of the loss of #2 engine and oil leaks and oil cooler malfunctions on #3 engine. This aircraft landed at Laohokow at 0053Z, took-off at 0325Z and reached Kiunglai at 0551Z.

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f. A/C 461 flew the briefed course to $37^{\circ}34'N - 126^{\circ}52'E$, where bombs were jettisoned because of a blown blister and a shortage of gasoline and oxygen. Return was to Kiunglai by the planned route.

g. A/C 581 lost #3 engine, jettisoned its bombs, and landed 24 minutes after take-off.

h. A/C 505 flew in general the briefed course, but because of an inoperative radar set and bad weather it failed to bomb the primary target. The bombs were jettisoned at $31^{\circ}58'N - 125^{\circ}12'E$.

i. A/C 285 returned to Kiunglai, landing one hour after take-off, because the right landing gear failed to retract. Bombs were returned.

4. 468th Group:

a. A/C 358 flew the briefed route to the primary target, bombed and returned to Pengshan by way of $33^{\circ}36'N - 126^{\circ}55'E$ and the north part of Hungtze Lake.

b. The following 5 aircraft reached the China Coast by the briefed route, but turned back to bomb the secondary target for the reasons listed. Check points on the return flight were not reported.

- (1) A/C 546 - weather conditions.
- (2) A/C 362 - radar was out; weather conditions.
- (3) A/C 284 - engine trouble (unspecified).
- (4) A/C 395 - radar out; low on fuel.
- (5) A/C 265 - turret out; excessive oil temperature; #1 turbo out.

c. A/C 429 followed the briefed course to an unspecified distance beyond the China Coast but because of severe icing did not continue to the primary target. A vessel at $33^{\circ}00'N - 126^{\circ}17'E$ was bombed as a target of opportunity. The secondary target at Shanghai was also bombed. Check points on the return flight were not reported.

d. A/C 272 flew the planned route to $33^{\circ}15'N - 123^{\circ}35'E$, where because of propeller governor malfunctions the course was altered. A target of opportunity (shipping in the mouth of the Yangtze River) was bombed as well as the secondary target at Shanghai. Check points on the return flight were not reported.

e. A/C 407 followed the briefed route to $33^{\circ}05'N - 126^{\circ}15'E$. Because of an inoperative radar and unfavorable weather conditions, turn-about was made prior to the target. The bombs were dropped on a target of opportunity in the Yawata area. The return flight to Pengshan passed over the following check points: $34^{\circ}05'N - 127^{\circ}20'E$, $33^{\circ}42'N - 123^{\circ}27'E$, $32^{\circ}40'N - 115^{\circ}40'E$, $31^{\circ}48'N - 112^{\circ}20'E$ and Liangshan.

f. A/C 397 followed the briefed course to $33^{\circ}45'N - 121^{\circ}10'E$. Because of bad weather conditions and an inoperative radar this aircraft did not proceed to the primary target, but bombed a target of opportunity (a railroad bridge at $32^{\circ}59'N - 117^{\circ}22'E$). The return flight to Pengshan passed over the following check points: $32^{\circ}21'N - 114^{\circ}44'E$, $31^{\circ}31'N - 110^{\circ}30'E$, and Liangshan.

g. A/C 409 flew the briefed route to the first assembly point, and from there to $32^{\circ}10'N - 127^{\circ}58'E$. Because of bad weather and a short circuit in the #3 fuel booster, this aircraft returned to $31^{\circ}46'N - 121^{\circ}55'E$ and bombed shipping in the mouth of the Yangtze River as a target of opportunity. The return flight to Pengshan passed over $31^{\circ}08'N - 109^{\circ}37'E$.

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h. A/C 487 flew the briefed course to the first assembly point, and from there to $32^{\circ}34'N - 128^{\circ}54'E$. Because of bad weather and an inoperative radar, this aircraft bombed a target of opportunity (a warehouse in Saishu city). The return flight to Fengshan passed over $31^{\circ}08'N - 109^{\circ}37'E$.

i. A/C 415 flew as briefed to the first assembly point, and from there to $32^{\circ}40'N - 128^{\circ}48'E$. Due to bad weather conditions a target of opportunity was bombed (the Riverside power plant at Shanghai). The return flight to Fengshan passed over $31^{\circ}15'N - 112^{\circ}12'E$.

j. A/C 325 flew as briefed to the primary target and dropped part of its bomb load. Proceeding from there it dropped the remainder on a target of opportunity at $33^{\circ}35'N - 116^{\circ}58'E$ (a railroad bridge). Return flight was by the briefed route.

k. A/C 342 landed at Fengshan 1 hour and 58 minutes after take-off, having been forced to return because of the failure of the right landing gear to retract. Bombs were jettisoned.

l. A/C 6208 flew the briefed course to the China Coast and headed toward the primary target. Because of bad weather and inoperative radar, bombs were jettisoned. Check points on the return flight were not reported.

m. A/C 365 is missing. See Annex A, Part IX, "Mission Operational Losses"

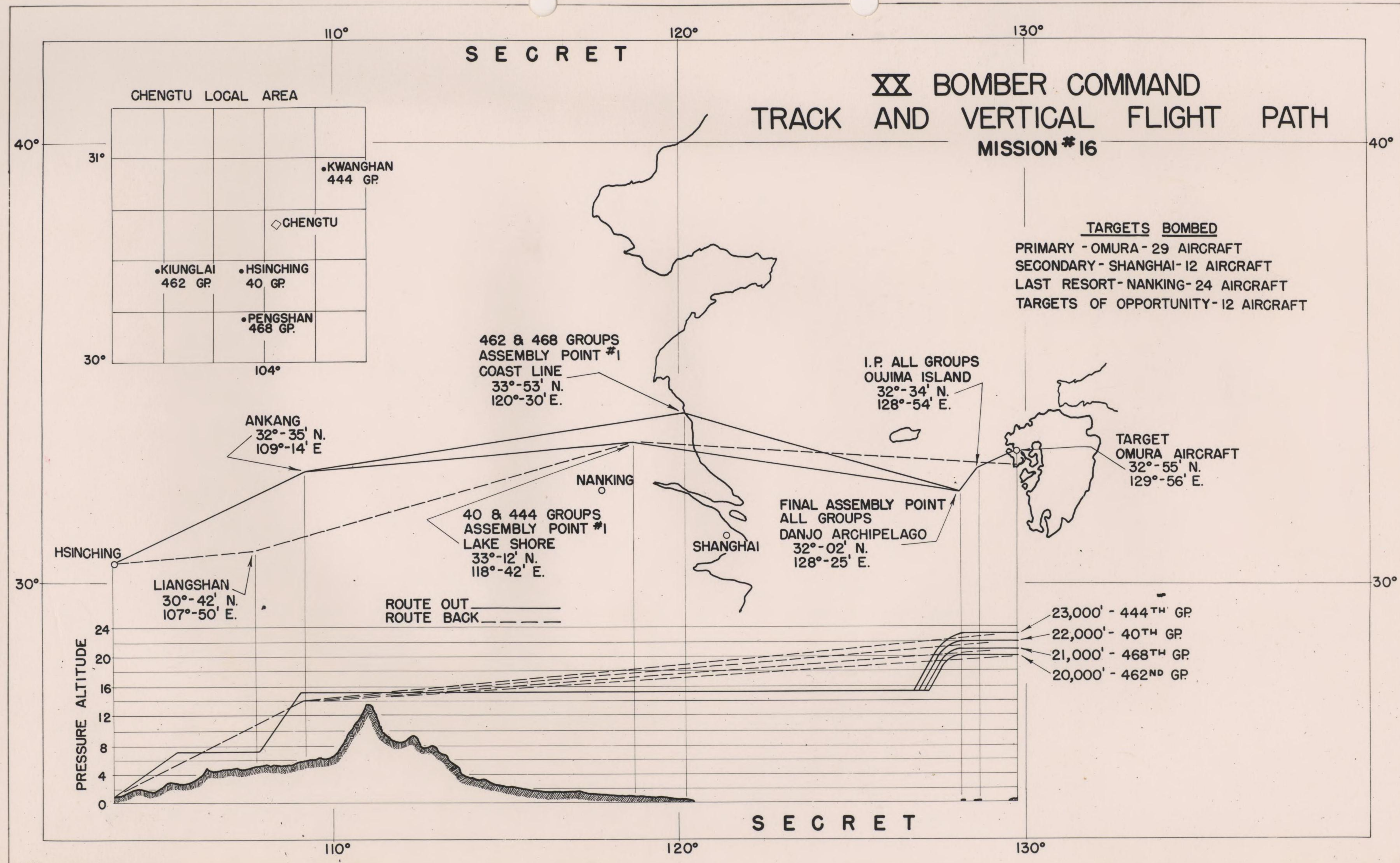
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By auth of CG XX BC

HEADQUARTERS
XX BOMBER COMMAND
APO 493

J.P.R. 15 Nov 44
Initials Date

CONSOLIDATED
SPECIALIST MISSION REPORT OF
STAFF BOMBARDIER

Date Prepared: 14 November 1944.

Field Order No. 16
Date of Mission: 11 Nov 44.

1. Poor weather conditions and poor reception of ground/air messages resulted in all Groups deviating considerably from the attack as planned and as subsequently changed. Weather prevailing at the primary target was 10/10 cloud coverage and bombing was accomplished by use of the standard radar-bombsight procedure, with bombing results unobserved.

2. Reports indicate a great number of aircraft bombed individually on primary, secondary, last resort and targets of opportunity. One Group (462nd) reported all their aircraft bombed individually.

3. Three aircraft dropped their bombs on the navigator's ETA, due to poor visibility and radar sets becoming inoperative.

4. One formation of twelve (12) planes, led by the 40th Group, bombing the last resort target released 50% of its bombs in the river. Reason for the poor bombing pattern was attributed to the loosely flown and lagging elements behind the lead flight.

5. Reported malfunctions preventing release of bombs.

a. 40th Group

(1) Aircraft #503-Five (5) bombs failed to release; cause undetermined as yet. As soon as possible a flight at altitude will be accomplished to determine the fault.

b. 444th Group

(1) Aircraft #292 failed to release bombs electrically; cause: Bombardier failed to allow sufficient time for intervalometer to warm up. Bombs were released by salvo.

(2) Aircraft #375 failed to release two bombs; cause: Bombardier failed to push the salvo handle through its entire range.

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c. 462nd Group

- (1) Aircraft #330 failed to release four bombs electrically; cause undetermined as yet.
- (2) Aircraft #311 failed to release two bombs electrically; cause undetermined as yet.
- (3) Aircraft #456 failed to release bombs electrically; cause undetermined as yet.

d. 463th Group

- (1) Aircraft #525 failed to release five bombs; cause undetermined as yet.
- (2) Aircraft #397 failed to release seven bombs electrically; cause undetermined as yet.
- (3) Aircraft #203 failed to release bombs on secondary target; cause; Bombardier failed to turn on bomb rack switches.

Prepared by
Staff Bombardier

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IV - Bombing Data (continued)

A. Times of Bomb Release

1. At the Primary Target (Omura):

Z Time	40th	444th	462nd	468th	Total
0010 - 0019	2	-	-	-	2
0020 - 0029	-	-	-	-	-
0030 - 0039	-	-	3	2	5
0040 - 0049	-	2	2	4	8
0050 - 0059	-	-	-	2	2
0100 - 0109	-	-	-	-	-
0110 - 0119	-	4	-	3	7
0120 - 0129	-	3	-	2	5
Total	2	9	5	13	29

2. At the Secondary Target (Shanghai):

Z Time	A/C No.	Group
2343	507	444th
0001	284	468th
0022	395	468th
0112	272-a	468th
0152	472	444th
0209	265	468th
0222	429-b	468th
0234	362	468th
0251	394	40th
0301	475	462nd
0302	546	468th
0320	322	40th

- a. Also dropped 3 bombs on a freighter in the Yangtze River at 0110Z.
- b. Also dropped 8 bombs on shipping S. of Saishu Island at 0044Z.

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3. At the Last Resort Target (Nanking):

Z Time	No. of A/C	Group
2203	1	40th
0038	1	444th
0059	10	40th
0059	2	444th
0129	1	444th
0212 1/2	1	40th
0213	2	40th
0231	1	444th
0250	2	444th
0256	1	462nd
0258	2	444th
Unknown	1- a	40th
Total	25	

a. A/C 237 (40th) reported missing.

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B. Bombing Altitudes

1. Primary Target (Cairo):

Altitude (feet)	40th-a	44th-a	45nd-a	48th-b	Total
18,000 - 18,999	-	1	-	-	1
19,000 - 19,999	-	-	-	1	1
20,000 - 20,999	-	-	2	-	2
21,000 - 21,999	-	1	2	1	4
22,000 - 22,999	1	-	-	3	4
23,000 - 23,999	-	2	1	2	5
24,000 - 24,999	-	3	-	1	4
25,000 - 25,999	1	2	-	3	6
28,000 - 29,999	-	-	-	1	1
Unknown	-	-	-	1-c	1
Total	2	9	5	13	29
Briefed Altitudes-d	22,000	23,000	20,000	21,000	

- a. Reported as indicated altitude.
- b. Reported as true altitude.
- c. A/C 365 reported missing.
- d. Pressure altitudes.

2. Secondary Target (Shanghai):

Altitude (feet)	40th-a	44th-a	46nd-a	48th-b	Total
17,000 - 17,999	-	-	1	-	1
18,000 - 18,999	1	-	-	2	3
19,000 - 19,999	-	1	-	2	3
20,000 - 20,999	-	1	-	-	1
21,000 - 21,999	1	-	-	2	3
22,000 - 23,999	-	-	-	1	1
Total	2	2	1	7	12

- a. Reported as indicated altitude.
- b. Reported as true altitude.

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3. Last Resort Target (Nanking):

Altitude (feet)	40th-a	444th-a	462nd-a	468th-b	Total
18,000 - 18,999	-	2	-	-	2
19,000 - 19,999	5	4	-	-	9
20,000 - 20,999	7	1	1	-	9
21,000 - 21,999	2	-	-	-	2
23,000 - 25,999	-	1	-	-	1
25,000 - 25,999	-	1	-	-	1
Unknown	1-c	-	-	-	1
Total	15	9	1	-	25

- a. Reported as indicated altitude.
- b. Reported as true altitude.
- c. A/C 237 reported missing.

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C. Axes of Attack:

1. Primary target (Osaka):

Axes of Attack (degrees)	40th-a	44th-a	462nd-a	468th-b	Total
70 - 79	2	3	1	5	11
80 - 89	-	1	-	2	3
90 - 99	-	1	-	1	3
100 - 109	-	-	3	1	4
110 - 119	-	1	-	1	2
120 - 129	-	1	-	1	2
130 - 139	-	-	1	-	1
140 - 149	-	1	-	1	2
250 - 259	-	1	-	-	1
Unknown	-	-	-	1-c	1
Total	2	9	5	13	29

Note: Briefed axis of attack was 73° Magnetic.

2. Secondary target (Shanghai):

Axes of Attack (degrees)	40th-a	44th-a	462nd-a	468th-b	Total
159	-	-	-	1	1
180 - 199	1	-	-	2	3
200 - 219	1	-	1	1	3
220 - 239	-	1	-	2	3
253	-	1	-	-	1
290	-	-	-	1	1
Total	2	2	1	7	12

3. Last Resort target (Banking):

Axes of Attack (degrees)	40th-a	44th-a	462nd-a	468th	Total
170 - 189	-	2	-	-	2
190 - 209	1	-	-	-	1
210 - 229	2	1	-	-	3
240 - 259	1	3	-	-	4
260 - 279	10	2	-	-	12
330 - 349	-	1	1	-	2
Unknown	1-d	-	-	-	1
Total	15	9	1	-	25

a. Magnetic

b. True

c. A/C 365 reported missing.

d. A/C 237 reported missing.

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S E C R E T

TARGETS OF OPPORTUNITY

Mission No. 16

11 November 1944

A/C	Group	Target	Bombs Dropped			Heading	
			Time	Gp	Inc		
298	40	Large AK at 32°35'N-121°55'E	0338Z	8	4	15000'I	170°M
589	40	Through overcast at 34°02'N-115°58'E	0215Z	8	4	19200'I	270°M
466	40	Saishu Island A/F	0105Z	8	4	18000'I	320°M
324	444	A/F S of Shanghai A.P.	2304Z	9	4	18000'I	358°M
204	444	a. Concrete bridge(possible dam) at 32°55'N-117°40'E		8			
		b. RR Bridge at 32°58'N-117°52'E		1	5		
830	462	a. RR Bridge at 32°47'30"N-118°01'E	0255Z	4		15000'I	290°M
		b. RR Bridge at 32°55'N-117°41'E	0300Z	2		15000'I	280°M
		c. RR Bridge at 32°57'N-117°25'E	0304Z	1	3	15000'I	270°M
311	462	A/F on SW corner of Saishu Is.	0045Z	9	4	18000'I	229°M
409	468	Ship off Shanghai	0203Z	12		20850'I	08°T
407	468	Yawata Area by DR	0039Z	12		23400'T	72°T
487	468	Warehouses on NE end of town on Saishu Island	0208Z		13	19500'T	273°T
397	468	RR Bridge at Penypu 1st run (32°59'N- 117°22'E)	0054Z	7		12400'T	210°T
		2nd run	0100Z	5		12400'T	40°T
272	468	Freighter in Yangtze River E of mouth Wang Po	0110Z		3	22400'T	233°T
525	468	RR Bridge at 33°35'N-116°58'E	0540Z	5		16000'T	246°T
415	468	Riverside Power Plant at Shanghai	0323Z	11		15000'T	230°T
429	468	Shipping south of Saishu	0044Z	8		20000'I	290°T

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S E C R E T

V - BCMB LOADING*

Mission No. 16

11 November 1944

Loads	40th			444th			462nd			468th			Total		
	A/C	GP	Inc	A/C	GP	Inc	A/C	GP	Inc	A/C	GP	Inc	A/C	GP	Inc
6 GP - 2 Inc							1	6	2				1	6	2
6 GP - 3 Inc							1	6	3				1	6	3
7 GP - 3 Inc							1	7	3				1	7	3
8 GP							2	16	-				2	16	-
8 GP - 4 Inc	25	200	100	4	32	16	1	8	4				30	240	120
9 GP - 4 Inc				10	90	40	7	63	28				17	153	68
9 GP - 5 Inc				14	126	70							14	126	70
10 GP - 1 Inc										2	20	2	2	20	2
10 GP - 2 Inc										2	20	4	2	20	4
10 GP - 5 Inc							2	20	10				2	20	10
10 GP - 6 Inc							1	10	6				1	10	6
11 GP										2	22	-	2	22	-
12 GP										10	120	-	10	120	-
13 GP										1	13	-	1	13	-
11 INC										2	-	22	2	-	22
12 Inc										6	-	72	6	-	72
13 Inc										2	-	26	2	-	26
Total A/C	25			28			16			27			96		
Total GP		200			248			136			195			779	
Total Inc			100			126			56			126			408
GP. per A/C		8			8.9			8.5			7.2			8.1	
Inc per A/C			4			4.5			3.5			4.7			4.3

* Based on aircraft airborne. "Inc." indicates 500-pound M-76 Incendiary bomb. "G.P." indicates 500-pound AN-M-64 (TNT or Ametol filled) General Purpose bomb. The Field Orders required the M-76 Incendiary bombs to be fused instantaneous nose and non-delay tail. The AN-M-64 General Purpose bombs were to be fused .1 second nose and .01 second tail. The AN-M-64 G.P. bombs were fused .025 second tail by the 462nd Group).

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VI - DISPOSITION OF BOMBS

Mission No. 16

11 November 1944

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	40th			444th			462nd			468th			Total		
	A/C	G.P.	Inc.	A/C	G.P.	Inc.	A/C	G.F.	Inc.	A/C	G.P.	Inc.	A/C	G.P.	Inc.
A/C airborne and bomb load	25	200	100	28	248	126	16	136	56	27	195	126	96	779	408
A/C over P.T. and bomb load	2	16	8	9	79	40	5	40	13	13	93	62	29	228	123
A/C bombing P.T. and bombs dropped	2	16	8	9	79	40	5	40	13	13	88	62	29	223	123
A/C bombing S.T. and bombs dropped	2	16	8	2	18	9	1	10	5	7	47	25	12	91	47
A/C bombing L.R.T. and bombs dropped	14	119	56	9	80	38	1	9	4	-	-	-	24	208	98
A/C bombing T/O and bombs dropped	4	24	12	2	18	9	2	16	7	5	60-a	16-b	13	118	44
Jettisoned bombs	3	25-c	16-d	3	27	14	5	42	18	2	-	23	13	94	71
Brought bombs back	-	-	-	0	-	2-e	2	19	9	-	-	-	2	19	11
Disposition Unknown	-	-	-	3-f	26	14	-	-	-	-	-	-	3	26	14
Totals	25	200	100	28	248	126	16	136	56	27	195	126	96	779	408

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- a. Includes 5 G.P. bombs dropped by A/C 525 that also dropped 7 G.P. bombs on the P.T. and 8 G.P. bombs dropped by A/C 489 that also dropped 4 G.F. bombs on the S.T.
- b. Includes 3 Inc. bombs dropped by A/C 272 that also dropped 8 Inc. bombs on the S.T.
- c. Includes 1 G.P. bomb jettisoned by A/C 503 that also dropped 7 G.P. bombs on the L.R.T.
- d. Includes 4 Inc. bombs jettisoned by A/C 503 that also dropped 7 G.F. bombs on the L.R.T.
- e. Brought back by A/C 375 that also dropped 9 G.P. bombs and 3 Inc. bombs on the L.R.T.
- f. A/C 307, 419, and 300 reported as missing.

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VII - FORMATIONS FLOWN

Mission No. 16

11 November 1944

A. Formations Planned

1. The 12-plane formation as defined in The Command's Tactical Doctrine was the formation required by the Field Orders.

B. Assembly Planned

1. The briefed assembly points and altitudes were as follows:

Group	Assembly Point No. 1	Altitude at Assembly Point No. 1	Assembly Point No. 2	Altitude at Assembly Point No. 2**
40th	33°12'N -	Base altitude* plus or minus odd 1000'	32°02'N -	22,000'
444th	118°42'E	Base altitude plus or minus even 1000'		23,000'
462nd	33°53'N -	Base altitude plus or minus odd 1000'	128°25'E	20,000'
468th	120°30'E	Base altitude plus or minus even 1000'		21,000'

* Base altitude was 13,000' pressure altitude.

** Expressed in terms of pressure altitude.

2. The aircraft were to take off from bases in The Chengtu Area at 2 minute intervals and climb on course to 7,000 feet pressure altitude, cruise for 30 minutes and then climb on course to 13,000 feet pressure altitude.

3. If instrument conditions prevailed at Assembly Point No. 1, the aircraft were to proceed directly to Assembly Point No. 2 and to attain their bombing altitudes prior to arrival.

4. All turns for assembly were to be made to the left by the 40th and 462nd Groups and to the right by the 444th and 468th Groups.

5. Between point of take-off and Assembly Point No. 1 the individual aircraft were to fly at the following indicated air speeds: Leader at 195 mph, Numbers 2, 3, and 4 at 190 to 195 mph, Numbers 5, 6, 7 and 8 at 195 to 200 mph, and Numbers 9, 10, 11, and 12 at 200 to 205 mph. Between Assembly Point No. 1 and the Target, all cruising, climbing and bombing were to be done at 195 mph indicated.

C. Formations over The Targets

1. Of the 29 aircraft bombing the primary target, only 5 bombed in formation. These composed 2 formations, one of 2 aircraft and one of 3 aircraft. All 12 aircraft bombing the secondary target of Shanghai bombed singly. However, 18 of 25 aircraft bombed the last resort Target in formation. These aircraft composed 4 formations, one of 12 aircraft and 3 of 2 aircraft each.

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2. The difficulty in forming may be attributed to poor conditions of visibility and the failure of all aircraft to receive the radio message substituting Nanking for the primary target of Omura. Better visibility at the last resort target is reflected in a higher percentage of aircraft bombing in formation than at the other targets.

3. Formations are shown below as they were at the time of bomb release. The time, altitude and heading is that of the lead aircraft. The diagrams are intended to indicate relative position only ("W" represents an aircraft of the 40th Group; "X", the 44th; "Y", the 462nd; and "Z", the 468th).

a. At the Primary Target (Omura):

		Bombs Dropped				Altitude Heading	
	A/C	Time	G.P.	Inc.			
(1)	W	344	0013Z	8	4	22,000'I	72° M
(2)	Y	506	0031Z	6	3	21,400'I	100° M
(3)	Y	631Z	0033Z	8		23,000'I	100° M
(4)	Z	390	0036Z	12		21,000'T	90° T
(5)	Y	270	0037Z	8		21,600'I	73° M
(6)	Z	353	0038Z		12	24,500'T	84° T
(7)	Z	424	0042Z	10	1	23,000'T	70° T
(8)	Time: 0044Z				Z 279		
	Alt: 25000'T						
	Head: 120° M						
	Bombs Dropped: 23 G.P.		Z 5208		Z 217		
			13 Inc.				
(9)	Y	5213	0046Z	8	4	20,000'I	180° M
(10)	Y	4463	0046Z	10	6	20,000'I	105° M
(11)	X	485	0046Z	9	5	18,200'I	73° M
(12)	X	225	0049 ¹ / ₂ Z	9	5	24,000'I	73° M
(13)	Z	358	0055Z	12		23,000'T	70° T
(14)	Z	494	0058Z		12	19,500'T	76° T
(15)	X	510	0111Z	9	4	23,000'T	230° M
(16)	Z	469	0114Z	12		28,500'T	73° M
(17)	Z	486	0115Z		12	22,000'T	73° T
(18)	X	321	0115 ¹ / ₂ Z	8	4	21,300'T	70° M
(19)	X	399	0116Z	9	5	25,000'I	89° M
(20)	Z	354	0116Z	12		22,000'T	193° T
(21)	W	276	0118Z	8	4	25,000'I	70° M
(22)	X	353	0118 ¹ / ₂ Z	9	5	23,000'I	111° M
(23)	X	462	0120Z	9	4	25,000'I	190° M
(24)	Z	525	0120Z	7		22,000'T	105° T
(25)	Time: 0123Z				X 422		
	Alt: 24500'I						
	Head: 120° M				X 262		
	Bombs Dropped: 17 G.P.		8 Inc.				
(26)	Z	365	0125Z	12 Inc.*		Unknown	Unknown

* Based on radio message.

b. At the Secondary Target (Shanghai):

(1)	X	507	2343Z	9	4	20,400'I	253° M
(2)	Z	284	0001Z	12		21,700'T	180° T
(3)	Z	395	0023Z	10	2	19,200'T	159° M

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		Bombs Dropped				Altitude Heading	
	A/C	Time	G.P.	Inc.			
(4)	Z	272	0112Z		8	22,400'T 230° T	
(5)	X	472	0152Z	9	5	19,000'I 220° M	
(6)	Z	265	0209Z		13	21,150'T 220° T	
(7)	Z	429	0222Z	4		18,000'I 290° T	
(8)	Z	362	0234Z	10	2	19,000'T 195° T	
(9)	W	394	0251Z	8	4	21,200'I 193° M	
(10)	Y	475	0301Z	10	5	17,000'I 200° M	
(11)	Z	546	0302Z	11		22,500'T 210° T	
(12)	W	322	0320Z	8	4	18,000'I 213° M	

c. At the Last Resort Target (Nanking):

(1)	W	331	2303Z	8	4	20,000'I 242° M	
(2)	X	292	0038Z	9	5	23,000'I 345° M	
(3)	Time: 0059Z				W 407		
	Alt: 19,500'I				W 294 W 396		
	Head: 272° M				W 290 W 457		
	Bombs Dropped: 96 G.P.				X 375 W 303 W 508 W 522 W 503		
	43 Inc.				X 251 W 306		
(4)	X	492	0129Z	9	5	25,000'I 258° M	
(5)	W	582	0212½Z	8	4	21,500'I 190° M	
(6)	Time: 0213Z				W 574		
	Alt: 20,000'I				W 313		
	Head: 229° M						
	Bombs Dropped: 16 G.P.						
	8 Inc.						
(7)	X	352	0231Z	9	4	20,300'I 257° M	
(8)	Time: 0250Z				X 378		
	Alt: 18,500'I				X 411		
	Head: 220° M						
	Bombs Dropped: 18 G.P.						
	8 Inc.						
(9)	Y	456	0256Z	9	4	20,000'I 338° M	
					X 580		
(10)	Time: 0258Z				X 423		
	Alt: 19,000'I						
	Head: 175° M						
	Bombs Dropped: 18 G.P.						
	9 Inc.						
(11)	W	237	unknown	8*	4*	unknown unknown	

* Inferred from radio message.

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AUTH CG XXBC

Date: 15 Nov 44

Initials *JPB*

HEADQUARTERS
XX BOMBER COMMAND
APO 493

CONSOLIDATED
SPECIALIST MISSION
REPORT OF

XX BOMBER COMMAND NAVIGATION OFFICER

DATE PREPARED: 15 November 1944

FIELD ORDER NO. 16

DATE OF MISSION: 11 Nov 44

1. Navigation for the most part was accomplished successfully. Factors which caused difficulty were extremely high wind velocities, and partial overcast-undercast conditions to complete instrument weather. Almost all airplanes drifted appreciably to the north of their course between Anhang and Hungtze Lake on the way to the target. Navigators who could employ celestial corrected course to the assigned assembly points very well. Radio facilities worked well but Liangshan was reported to be listed at different frequencies on different information sheets.

a. Because of the diversity of targets attacked average information on navigation times is not listed.

b. Winds forecast were not as useful as they usually are. On the trip to the target the winds was much more to the S.W. than forecast. Upwards of 15,000 feet (where most of the flying was done) average wind velocities from 35 to 55 knots were recorded. Direction of the wind was from the S.W. to W. and WNW.

c. The following statistical information is presented as a general indication of the extent to which aids are being used by the various groups:

<u>BASE NO*</u> <u>OF A/C</u>	<u>CEL</u> <u>LOP'S</u>	<u>RADIO</u> <u>LOP'S</u>	<u>CEL</u> <u>FIXES</u>	<u>RADIO</u> <u>FIXES</u>	<u>QDM'S</u>
40th 21	68	2	20	10	18
444th 22	124	4	16	3	1
462nd 9	44	0	14	5	8
468th 25	116	0	26	10	7
<u>77</u>	<u>352</u>	<u>6</u>	<u>76</u>	<u>28</u>	<u>34</u>

* No of A/C bombing any target

Note: 468th and 444th indicate best showing.

2. Comments by Groups:

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a. 40th Group.

(1) A new crew experienced some difficulty in getting back to its base. No aids except ODM's were used by the navigator.

b. 444th Group. None

c. 462nd Group

(1) Two navigators (A/C's #463 and #5213) reported using no aids at all.

d. 468th Group

(1) The navigator of A/C #390 reported in one case that his sextant light was out and in another that he had no sextant. Either possibility is not admissible and could cause serious trouble.

Prepared by
Staff Navigator

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IX MISSION OPERATIONAL LOSSES

Mission No. 16

11 November 1944

A. A/C 307 (444th Group) crash landed south of Ankang at $32^{\circ}02'N - 108^{\circ}17'E$. At the time of this report, 7 crew members are safe at Ta-Hsien, 2 are dead, and 2 are missing. Chinese authorities have given assurance that all possible efforts to locate the missing crew members are being made.

B. A/C 237 (40th Bomb Group) sent a radio message while over a target (not specified in the message but thought from the signal strength to be the last resort target) that #4 engine was on fire. Radio operators who intercepted the message thought that the key was clamped down. Fragmentary and vague reports from Chinese sources of an aircraft crashing west of Nanking may refer to this plane.

C. A/C 419 (444th Group) crashed, having developed engine trouble en-route to the target. The location of the crash is not known at the time of this report, but 6 crew members are known to be safe at Liangshan awaiting evacuation. Of the remainder of the crew, 1 is dead and 4 are missing. Two of these missing men may be at Ta-Hsien, but confirmation of this report is lacking.

D. A/C 300 (444th Group) was heard by another aircraft trying to contact a submarine at 0102Z for about 15 minutes. A/C 300 had left the formation at 0005Z due to a bad oil leak in the #3 engine, shortly before the formation reached $32^{\circ}40'N - 123^{\circ}00'E$. Another aircraft sighted a B-29 ditched at approximately $31^{\circ}55'N - 124^{\circ}55'E$, and took photographs from 19,000 feet. Photos show the B-29 afloat with a large oil slick surrounding it. No life rafts are visible, and white spots on the B-29 itself might possibly be some members of the crew. Two Japanese single engine aircraft, believed to be float planes, are shown by the photos in the immediate vicinity of the B-29.

E. A/C 365 (468th) reported from over the target at Omura that it was low on gasoline. This aircraft is carried as missing.

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X - INFORMATION ON LANDINGS

Mission No. 16

11 November 1944

a. Landed at Home Bases

1. Aircraft bombing assigned targets:

Target Bombed		40th	444th	462nd	468th	Total
1. <u>PT (Omura)</u>	First A/C down	0735Z	0839Z	0843Z	0759Z	0735Z
	Last A/C down	0932Z	0928Z	0846Z	0956Z	0956Z
2. <u>ST (Shanghai)</u>	First A/C down	0817Z	0500Z	0752Z	0500Z	0500Z
	Last A/C down	0856Z	0643Z	-	0748Z	0856Z
3. <u>LRT (Nanking)</u>	First A/C down	0520Z	0505Z	0737Z	-	0502Z
	Last A/C down	0658Z	0711Z	-	-	0737Z

2. Aircraft failing to bomb any assigned target:

a. 40th Group:

- (1) A/C 298 - 111002Z - bombed target of opportunity.
- (2) A/C 589 - 110626Z - bombed target of opportunity.
- (3) A/C 466 - 110758Z - bombed target of opportunity.
- (4) A/C 297 - 102230Z - jettisoned bombs
- (5) A/C 319 - 102209Z - jettisoned bombs
- (6) A/C 831 - 110536Z - jettisoned bombs.

b. 444th Group:

- (1) A/C 324 - 110523Z - bombed target of opportunity.
- (2) A/C 204 - 110805Z - bombed target of opportunity.
- (3) A/C 538 - 110709Z - jettisoned bombs.
- (4) A/C 340 - 110729Z - jettisoned bombs.
- (5) A/C 267 - ~~102032Z~~ - jettisoned bombs.

c. 462nd Group:

- (1) A/C 830 - 110656Z - bombed target of opportunity.
- (2) A/C 311 - 110729Z - bombed target of opportunity.
- (3) A/C 581 - 101928Z - jettisoned bombs.
- (4) A/C 461 - 110721Z - jettisoned bombs.
- (5) A/C 6231 - 110804Z - jettisoned bombs.
- (6) A/C 505 - 110755Z - jettisoned bombs.
- (7) A/C 285 - 101942Z - brought bombs back.
- (8) A/C 278 - 110606Z - brought bombs back.

d. 468th Group:

- (1) A/C 409 - 110721Z - bombed target of opportunity.
- (2) A/C 407 - 110818Z - bombed target of opportunity.
- (3) A/C 487 - 110910Z - bombed target of opportunity.
- (4) A/C 397 - 110518Z - bombed target of opportunity.
- (5) A/C 415 - 110853Z - bombed target of opportunity.
- (6) A/C 542 - 102118Z - jettisoned bombs.
- (7) A/C 6208 - 110816Z - jettisoned bombs.

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B. Landed at other than Home Bases

1. 462nd Group:

- (1) A/C 270 landed at Kwanghan at 0820Z, having bombed the primary target. This aircraft took off from Kwanghan the same day and returned to its home base at 0951Z.
- (2) A/C 338 landed at Laohokow at 0053Z, having jettisoned its bombs. This aircraft took off from Laohokow at 0325Z, landing at its home base at 0551Z.

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ANNEX

B

ENEMY ANTI-AIRCRAFT

* * * * *
* Prepared by: *
* Flak Officer *
* XX BOMBER COMMAND *
* * * * *

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I - ENEMY ANTI-AIRCRAFT

Mission No. 16

11 November 1944

(Preliminary Report)

A. ANTI-AIRCRAFT FIRE ENCOUNTERED:

1. Omura (32° 54'N - 129° 57'E):

a. Meager and accurate to inaccurate black heavy anti-aircraft fire was reported at 0036Z, 0038Z and 0115Z by 10 per cent (3 out of 29) of the aircraft over the area at altitudes varying from 21,000 to 23,000 feet. As fire was encountered through a 10/10 undercast, the use of gun-laying radar is indicated although approximately 90 per cent of the aircraft over the area encountered no opposition and RCM Observers intercepted no possible gun-laying radar signals. All fire was encountered in the vicinity of the bomb release line, and it is believed continuously pointed fire was being used.

b. Following are reports of accuracy, intensity and deviations of bursts. The numbers indicate aircraft reporting in the affirmative.

<u>Reports of Accuracy</u>		<u>Reports of Intensity</u>	
Struck	0 aircraft	Intense	0 aircraft
Rocked	2 aircraft	Moderate	0 aircraft
Missed	1 aircraft	Meager	3 aircraft

Reports of Deviations

Above	0 aircraft	Ahead	1 aircraft	Left	1 aircraft
Level	3 aircraft	Abreast	1 aircraft	In Line	1 aircraft
Below	0 aircraft	Behind	1 aircraft	Right	1 aircraft

c. No enemy aircraft were observed on the same course and altitude.

Bombing was accomplished by single aircraft (with the exception of 1 formation of 3 aircraft at 0044Z and 1 of 2 aircraft at 0123Z) from 0013Z to 0125Z at altitudes ranging from 18,000 to 28,000 feet.

2. Nagasaki (32° 43'N - 129° 52'E):

a. Meager and accurate black heavy anti-aircraft fire was reported by 2 aircraft from 0100Z to 0059Z at altitudes of 19,000 and 20,000 feet through 10/10 undercast. Deviations were level, abreast and in line. No enemy aircraft were observed on the same course and altitude.

b. Although 1 aircraft reported its position as 8 miles west of Nagasaki, it is believed that fire originated from the Nagasaki heavy anti-aircraft defense. This aircraft also stated that "when flying through solid soup it was rocked by a few bursts so accurate that they could be heard."

3. Shanghai (31° 18'N - 121° 28'E):

a. Meager and inaccurate black heavy anti-aircraft fire was reported by 55 per cent (11 out of 20) of the aircraft over the area between 2343Z and 0320Z at altitudes ranging from 18,000 to 22,500 feet. Meager and inaccurate black and white automatic weapons fire was also encountered by

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15 per cent or 3 of the above 20 aircraft. This AW fire was reported at considerable distances below, and as coming from ships between Point Island and the mainland at 2343Z.

b. Undercast was reported as varying from 7/10 to C.VU conditions, and no enemy aircraft were reported on the same course and altitude.

c. Deviations for the heavy antiaircraft fire encountered were as follows:

Above . . . 1 aircraft	Ahead . . . 1 aircraft	Left . . . 5 aircraft
Level . . . 4 aircraft	Abreast . . 1 aircraft	In Line. . 0 aircraft
Below . . . 6 aircraft	Behind. . . 4 aircraft	Right. . . 6 aircraft

d. Heavy antiaircraft fire is believed to have been continuously pointed.

4. Nanking (32°03'N - 118°47'E):

a. Meager and inaccurate black heavy antiaircraft fire was reported by 88 per cent (21 out of 24) of the aircraft over the area between 2303Z and 0258Z at altitudes varying from 18,500 to 25,000 feet. Meager and inaccurate white automatic weapons fire was also encountered by 17 per cent or 4 of the above 24 aircraft. This AW fire was reported as considerable distances below, behind and to the right, by aircraft over the area at 0057Z to 0102Z and from 0213Z to 0214Z.

b. Deviations for the heavy antiaircraft fire encountered were as follows: Numbers indicate aircraft reporting in the affirmative while percentages are determined from the total reports in one direction only, as above, below and level.

Above . . 9 (26 percent)	Ahead . . 11 (44 percent)	Left . . 13 (45 percent)
Level . . 6 (18 percent)	Abreast . 3 (6 percent)	In Line. 6 (21 percent)
Below . .19 (56 percent)	Behind. . 11 (44 percent)	Right. . 10 (34 percent)

c. Heavy antiaircraft fire is believed to have been continuously pointed. The number of bursts observed varied from 1 to 15 at any one time.

5. Convoy 5 to 10 miles South of Saishu Island (33°00'N - 126°00'E):

a. Although reports concerning the composition and location of this convoy differed, it is believed that all antiaircraft opposition encountered in this area originated from the one convoy. The convoy probably consisted of from 8 to 11 ships including an escort of from 2 to 3 destroyers.

b. Heavy Antiaircraft Fire Encountered:

(1) Meager and inaccurate to accurate (1 aircraft was struck) black and some white heavy antiaircraft fire was reported by 14 aircraft from 2430Z to 0155Z at altitudes varying from 14,000 to 20,000 feet. Undercast was reported as 7/10 to C.VU conditions.

(2) Deviations were level or below, abreast or behind, and generally to the right. Continuous pointed fire is believed to have been used, and no enemy aircraft were reported on the same course and altitude. RCM Observers also intercepted signals that could have originated from gun-laying radar.

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c. Automatic Weapons Fire Encountered: Two aircraft also reported meager to moderate and inaccurate automatic weapons fire at 0044Z and 0154Z at altitudes of 18,500 feet and 20,000 feet through 2/10 to 7/10 undercast. Bursts were reported as both black and white, but were considerable distances below and abreast of the reporting aircraft.

6. Nanyang (33°04'N - 112°41'E): Meager and inaccurate red heavy anti-aircraft fire was encountered by 1 aircraft at 2100Z, at 13,500 feet altitude. Deviations were reported as level, abreast and 1 mile to the left, with a total of 4 bursts being seen. Continuously pointed fire is believed to have been used.

7. Pensu Railroad Bridge at 32°59'N - 117°22'E: Meager and inaccurate white automatic weapons fire was encountered at 0032Z and 0054Z at 12,500 feet altitude by 1 aircraft under C.VU conditions. Bursts were reported as 7,000 feet below, behind and to the right.

8. Vicinity of Szeyang at 33°47'N - 118°45'E: Moderate and inaccurate automatic weapons fire was encountered by 1 aircraft at 15,000 feet altitude at 2212Z through 9/10 undercast. Deviations were reported as below and to the left. No enemy aircraft were reported on the same course and altitude.

9. Southwest Tip of Saishu Island (33°13'N - 126°15'E):

a. One aircraft encountered meager and inaccurate black heavy anti-aircraft fire at 0145Z at an altitude of 23,000 feet from this vicinity. Deviations were reported as above and to the right. The undercast was 2/10, and it is believed that continuously pointed fire was used.

b. Also 1 aircraft at 2432Z at an altitude of 17,000 feet through 4/10 undercast reported seeing numerous ground flashes that were believed to be from automatic weapons in this general vicinity. No bursts, however, were observed in the air.

B. Ground-To-Air Rockets

None reported.

C. Possible Phosphorous Anti-aircraft Bursts

1. The tail gunner of aircraft 251 of the 444th Group, while over Nanking at 0059Z at 19,200 feet altitude and C.VU conditions, observed 3 white bursts, much larger than the ordinary flak burst. Two bursts were first observed at 8 o'clock and approximately 1500 feet below the aircraft with the third burst appearing very shortly thereafter in approximately the same position. Together the 3 bursts formed a triangular pattern in the sky.

2. Before the bursts occurred a round glowing ball was seen and a very short time later the burst appeared developing into trails of white (possibly phosphorus) in all directions. The ball first seen was still visible after the burst (described as similar to "skyrocket bursts") occurred.

3. Another observation, possibly similar to the above, was also reported at 0129Z from an altitude of 25,000 feet. Further information may be obtained.

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D. Smokescreens

1. An ineffective attempt to screen the Nanking Power House and the Car Ferry Pier on the east bank of the Yangtze River and the Railroad Yards on the west bank was noted on strike photos.

2. At 0129Z 7 generators just east of the Nanking Power House were starting to function, but at no time did the smoke reach the Power House. Two of these generators were in operation on photos of 0100Z.

3. A single generator located just south of the Nanking Car Ferry Pier on the east bank of the river was functioning at both 0129Z and 0133Z. This generator was not functioning at 0100Z but another located just east of the pier was. Also evident were 3 generators in the vicinity of the Railroad Yards on the west bank of the river.

4. By 0258Z no generators were observed in operation in the Nanking area.

E. Barrage Balloons

Four balloons were observed in the vicinity of Nanking at 0129Z at approximately 5000 feet altitude. No further information is available.

F. High-altitude Balloons

Two possible high-altitude balloons were sighted over the China coast at 33°00'N - 121°20'E at 0315Z by the crew of 1 aircraft. The balloons were described as "sausage" shaped and at an altitude of approximately 14,000 feet. The altitude of the aircraft making the observation was 19,000 feet.

G. Damage from Heavy Antiaircraft Fire

One aircraft, #424 of the 468th Group, sustained flak damage consisting of 1 hole in the horizontal stabilizer. This aircraft was struck at 0155Z approximately 5 to 10 miles south of Saishu Island when under heavy antiaircraft fire from the convoy as reported under Section e, Part 1.

H. Blackout

While enroute to the primary target, Omura, and over sections of Occupied China during darkness (dawn occurred at approximately the China coast) lights were observed all along the route. No lighted areas were seen to blackout on the approach of our aircraft.

I. Warning

It is believed that the enemy had prior warning of the attack, based on interception by RCM Observers, of Early Warning radar signals from 110° East to Japan and return to 110° East.

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ANNEX

C

ENEMY AIR OPPOSITION

* * * * *
*
*Prepared By: *
* *
* OPERATIONAL INTELLIGENCE UNIT *
* *
* XX BOMBER COMMAND *
* *
* * * * *

S E C R E T

S E C R E T

I - JAPANESE FIGHTER TACTICS - MISSION NO. 16

TARGET: Omura, Japan

TIME: Day Mission.

DATE: 11 November 1944

1. General:

a. Enemy opposition was weak. Twenty-two B-29's were intercepted of the 91 reporting. Sixty-five individual encounters developed from 23 single and 12 coordinated attacks. The latter attacks employed 32 enemy aircraft and were responsible for 42 individual encounters. (65% of the total). Three B-29's were reported damaged due to enemy air action. Preliminary claims against enemy aircraft are 2 destroyed, 2 probably destroyed, and 12 damaged. Of the 5 B-29's reported lost or missing, there are no indications that any were due to enemy air action. Thus, it is evident that enemy air opposition was ineffectual as well as weak. The enemy attacking force was estimated at 10 TOJOS, 8 OSCARS, 6 TONYs, 3 NICKS, 3 ZEKES, 4 HAMPs, 1 IRVING and 1 unidentified single-engine fighter.

b. In view of the many targets struck, the encounters were well scattered. The great majority (92%) were away from the immediate principal target areas (Omura, Shanghai, and Nanking), and in 63 of the 65 encounters (97%) after bombs away. A number of encounters occurred in the proximity of targets of opportunity, but, for the purposes of comparison, they will not be treated as if they had occurred in definite target areas.

c. There was no enemy air opposition over Omura. In the Nanking target area, 3 attacks were made at altitudes of 18,500, 19,000 and 19,500 feet, and all after bombs were away. In the Shanghai area, there were 4 attacks at altitudes from 17,000 to 19,000 feet. Again, all were after bombs away. The remaining encounters occurred in the vicinities of Hankow, Nanking, Hungtze Lake, and an area about 100 to 125 miles north of Hankow. All encounters are graphically indicated in Exhibit A.

2. Direction and Level of Approach.

a. Encounters on the frontal quarter were still in the majority (32%), but lower than Mission #15 (53%), #14 (85%), and #13 (43%). Of the remainder, 29% were from the right side, 20% from the rear quarter, and 19% from the left. Encounters on the right quarter (29%) were higher than they have been for the past 8 missions, and it is interesting to note that of the 19 individual encounters on this quarter, 12 were made against B-29's flying in formation. On the left side, 4 out of 12 encounters were made against airplanes in formation.

b. There were 30 high approaches (46%), 11 level approaches (17%),

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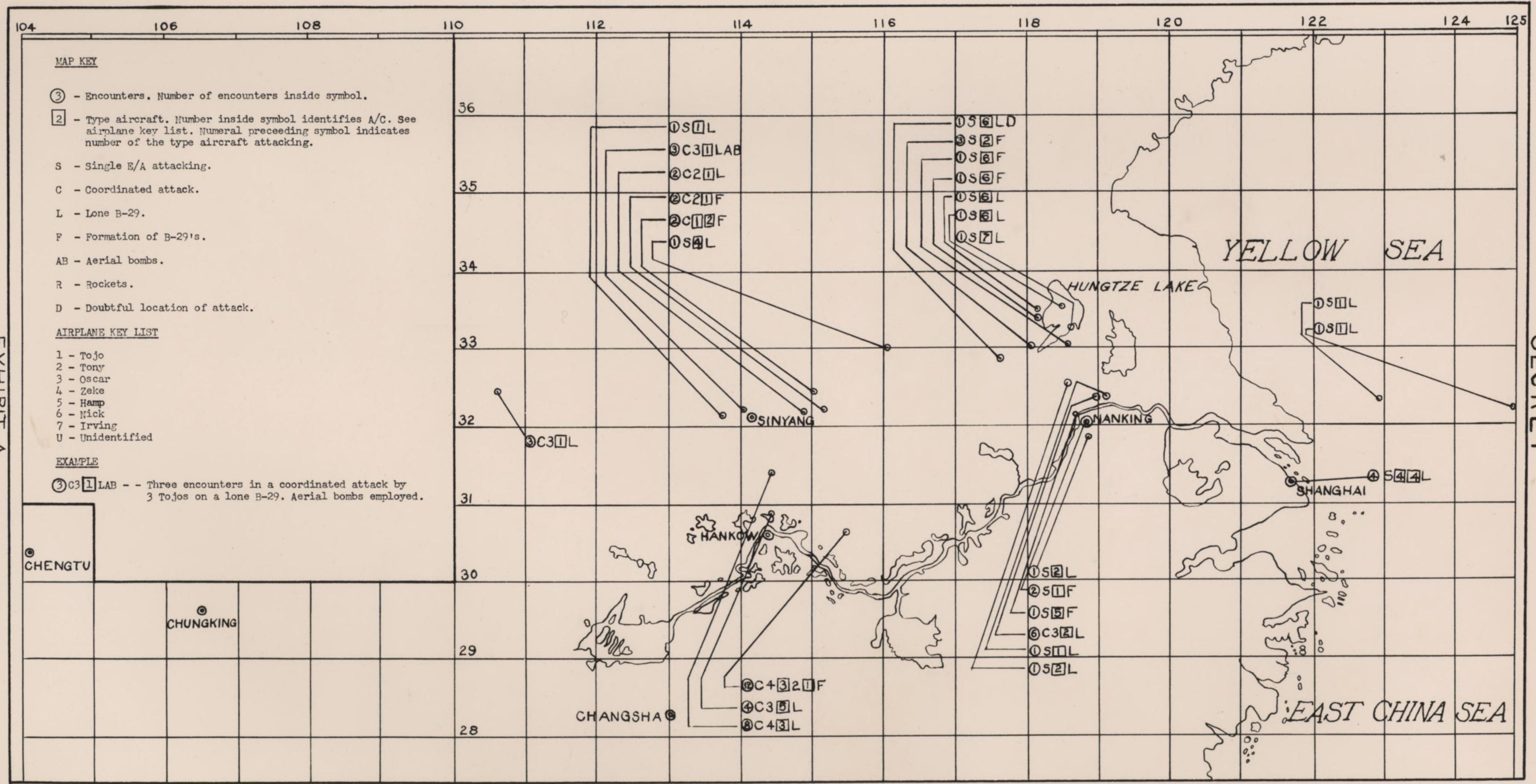
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EXHIBIT A
 SECRET



Correction: In the Shanghai encounters the second symbol for type aircraft should contain "U" instead of "4".

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and 24 low approaches (37%). On Mission #15 the approaches were high 38%, level 21%, and low 28%.

c. A summary of direction and level of approaches in all encounters is shown in the following tables and in Exhibit B:

Table No. 1 - Direction and Level of Approach

Direction of Encounter	Front			Right Side			Rear			Left Side			Total
	11	12	1	2	3	4	5	6	7	8	9	10	
High		8	4	8	1				1	4	1	3	30 (46%)
Level	1			4	1	1			1	1		2	11 (17%)
Low		5	3	2	1	1	1	2	8			1	24 (37%)
TOTAL	1	13	7	14	3	2	1	2	10	5	1	6	65 (100%)
		21		19			13			12			

Table No. 2 - Level of Approach

Level of Approach	Front	Right Side	Rear	Left Side
High	12	9	1	8
Level	1	6	1	3
Low	8	4	11	1
Total	21 (32%)	19 (29%)	13 (20%)	12 (19%)

3. Exchange of Fire

a. Enemy pilots opened fire in 43 of the 65 encounters (66%), and in 29 attacks at ranges under 1000 yards (67%). The latter compares with Mission No. 15 (65%), but is higher than Missions #14 (42%) and #13 (56%). It is noteworthy that the high percentage of Japanese fire under 1000 yards was reached despite the fact that B-29's fired in 54 of the 65 encounters (83%), and in 30 of these (56%) at ranges of 1000 yards and more. The first percentage, 83%, is slightly less than in the past few

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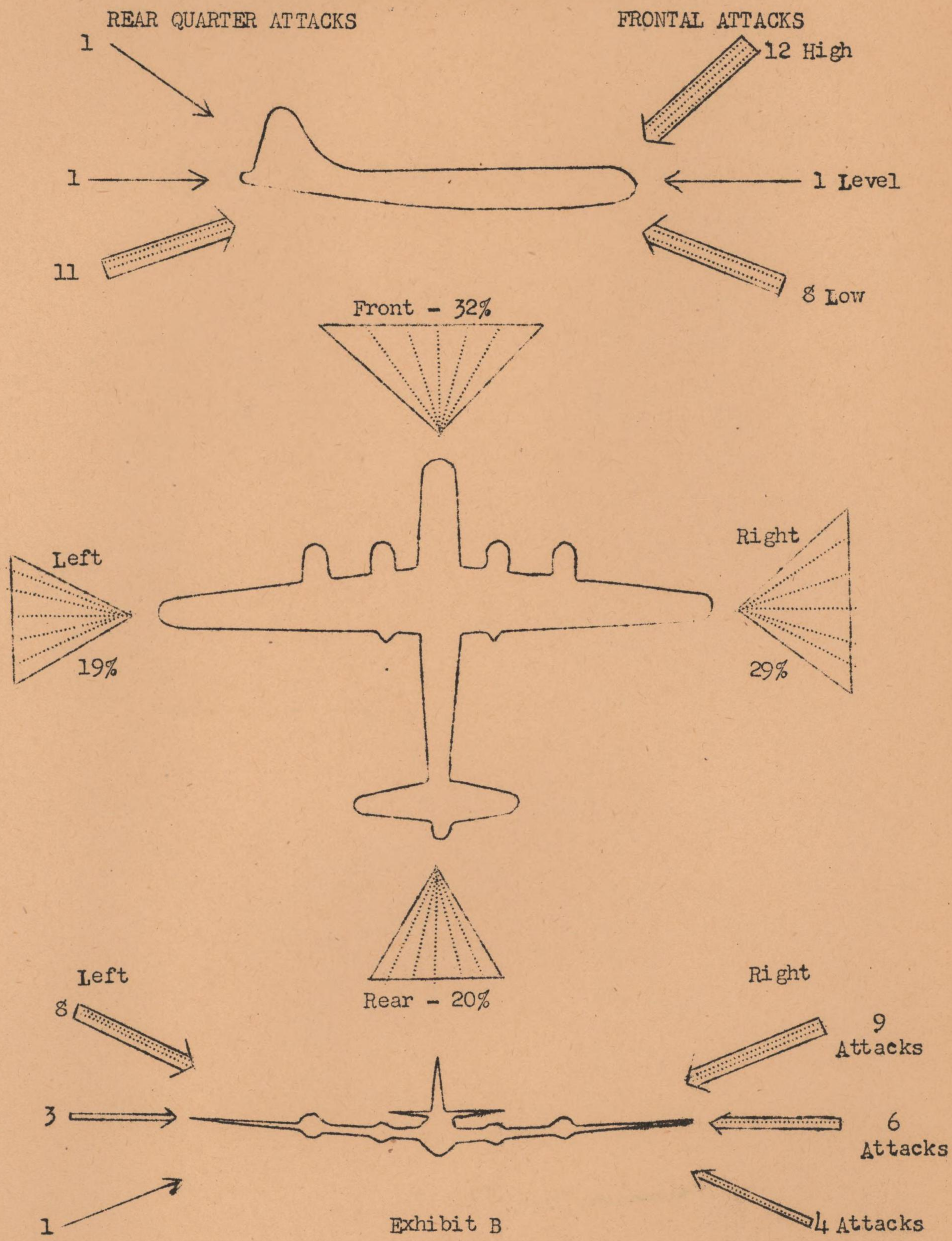
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S E C R E T

DIRECTION AND LEVEL OF APPROACH



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missions (#15, 88%; #14, 89%; and #13, 92%), but, the second, 56%, is higher (#15, 33%; #14, 29%; and #13, 53%). This may be interpreted as an indication of Japanese aggressiveness.

b. The following table shows comparative percentages at various ranges:

Table No. 3 - Distances Opened Fire

Distance (yards)	Enemy Fire		B-29 Fire	
	No. of Attacks	Percent	No. of Attacks	Percent
0 to 499	8	20	8	15
500 to 799	12	29	3	5
800 to 999	9	22	13	24
1000 & over	12	29	30	56
Total	41*	100	54	100

* It was reported that enemy pilots opened fire in 2 additional attacks, but the ranges were unknown.

4. Aggressiveness of Enemy Attacks

a. Enemy pilots were aggressive. Thirty-four of their attacks, 53%, were pressed to less than 250 yards and, of these, 30 were to 100 yards or less - as follows:

<u>No. of Attacks</u>	<u>E/L. closed to (yards)</u>
8	8 (reported as 25 feet.)
1	10
3	33 (100 feet)
2	50
3	67 (200 feet)
1	75
12	100

b. Japanese aggressiveness was more pronounced than on any other mission with the single exception of Mission #12 (Formosa), in which 75% of the attacks were closed to 250 yards or less. However, the total number of encounters on Mission #12 was 28 compared to the 64 encounters on which Mission #16's percentage is based. Crew reports indicate that deter-

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mination and skill were displayed by enemy pilots on Mission #16 and are evidenced by close breakaways and teamwork in their 12 coordinated attacks. Distances to which encounters were closed are shown in the following table:

Table No. 4 - Distances to Which Attacks Were Pressed

<u>Distance (yards)</u>	<u>No. of Encounters</u>	<u>Percent</u>
1000 & over	11	17
800 to 999	4	6
500 to 799	7	11
250 to 499	8	13
0 to 249	34	53
Total	64*	100

* One encounter excluded due to incomplete data.

5. Aerial Bombs

a. The use of aerial bombs was observed in only one encounter with enemy aircraft. In this instance, 3 bombs were released in a coordinated attack by 3 Tojos, in what was described as a possible combination bombing and gunnery attack. The B-29, on its way back to the Chengtu area, was flying at 15,000 feet at a point approximately 100 miles north and slightly west of Hankow. Three bombs were observed falling well in front of the airplane, continuing down without exploding. No enemy aircraft were seen at the time. (The bombs were described as shaped like U.S. practice bombs, but smaller in size, and were judged to weigh about 60 pounds.)

b. A minute or two later, 3 Tojos were sighted, high, 4000 yards ahead, coming in line abreast from 11:30, 12:30 and 1:30 o'clock. The enemy pilots opened fire at 1000 yards, and the B-29 returned it at 800 yards. The Tojos closed to 400 yards, then broke away in peel-offs, two to the right and one to the left. No hits were claimed on the Tojos, nor was the B-29 reported damaged.

c. No other aircraft were observed in the vicinity at the time of the attack, and, accordingly, it is assumed that the bombs were dropped from these same Tojos. It is not known whether the 3 bombs were dropped by one enemy aircraft or one bomb by each airplane. A graphic illustration of the encounter is presented based on the assumption that the same airplanes delivered both attacks.

C-I-4

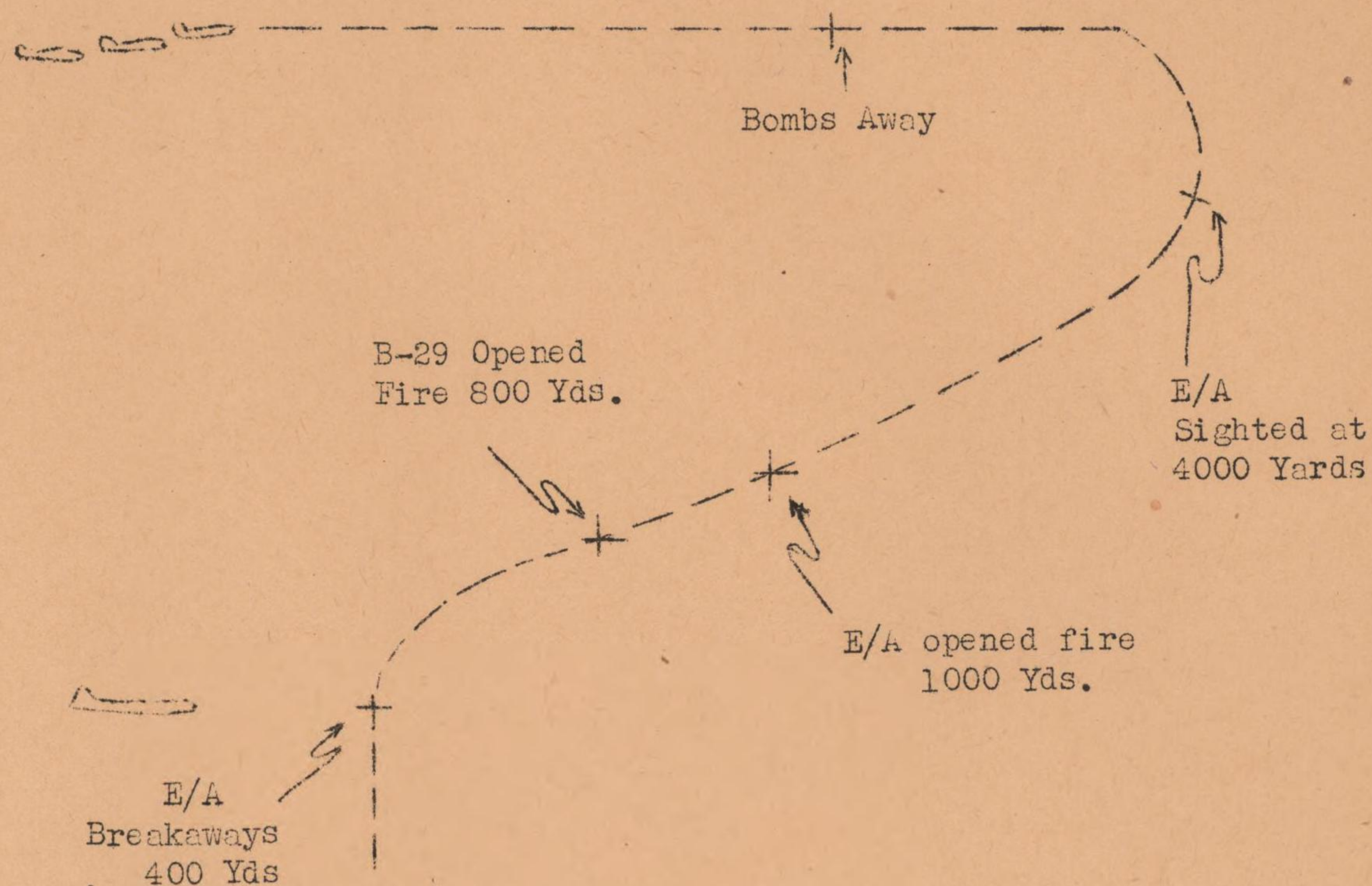
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6. Coordinated Attacks

a. There were 12 coordinated attacks, employing 32 enemy airplanes, and resulting in 42 individual encounters, 65% of the total. This is an unusually large percentage in comparison with other missions, and indicates a degree of skill and teamwork on the part of Japanese pilots hitherto unencountered.

b. Attacks were made by formations of 2, 3, 4, and 6 aircraft, with a preference indicated for approaching in trail from the frontal quarter between 10 and 2 O'clock.

c. In view of the large number of coordinated attacks some of the accounts are described and illustrated as follows:

(1) Four Oscars came in from 11:30 low in quick successive passes. They were sighted at 400 yards, just as they broke away low toward 6:30 o'clock. They performed aerobatics out of range, 2000 yards, at 7 o'clock, then came in in trail from that position, breaking off sharply at 1000 yards when the B-29 opened fire. The B-29 did not fire during the first series of passes, and the enemy aircraft are also reported not to have fired. Diagram follows:

C-I-5

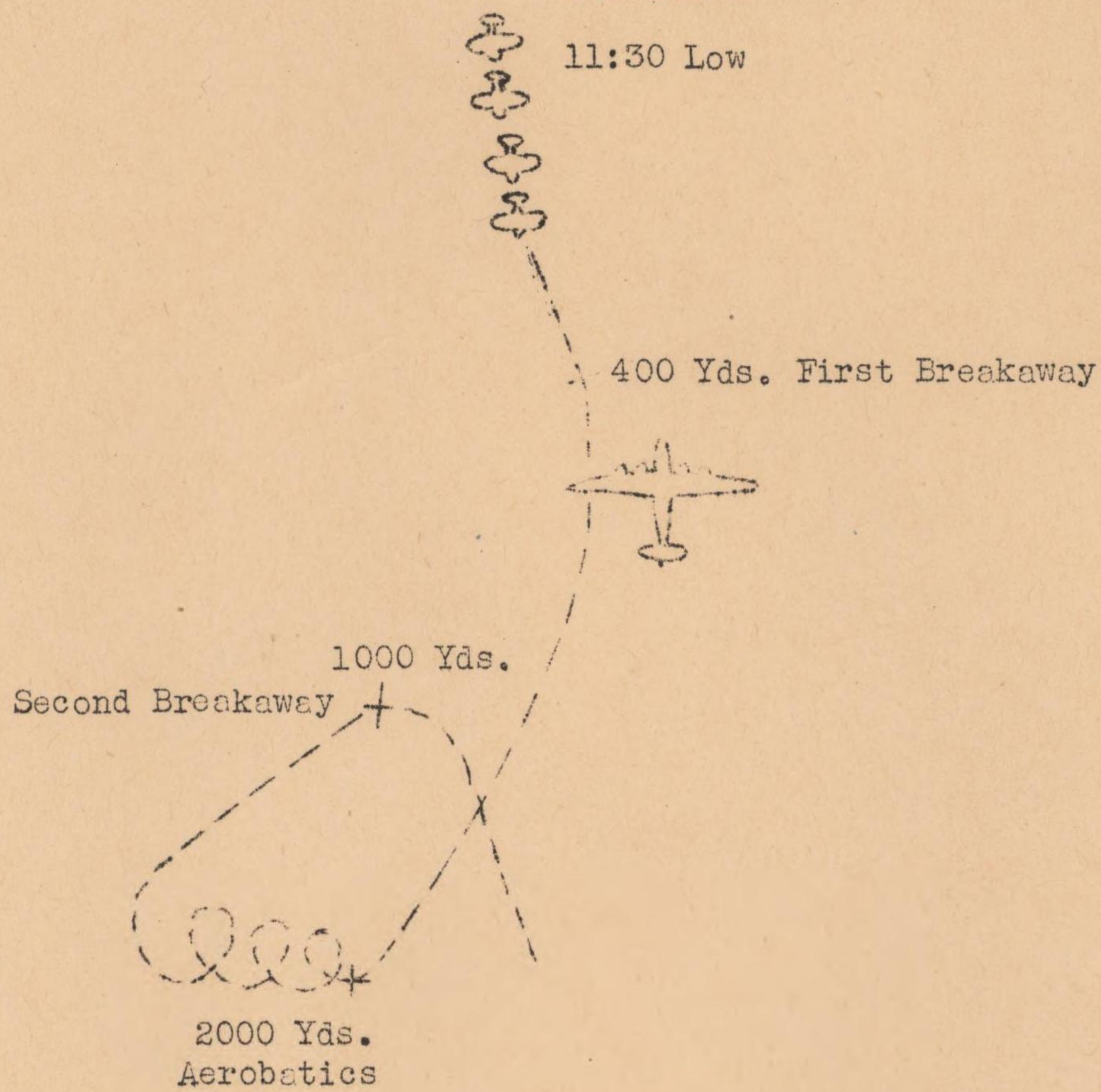
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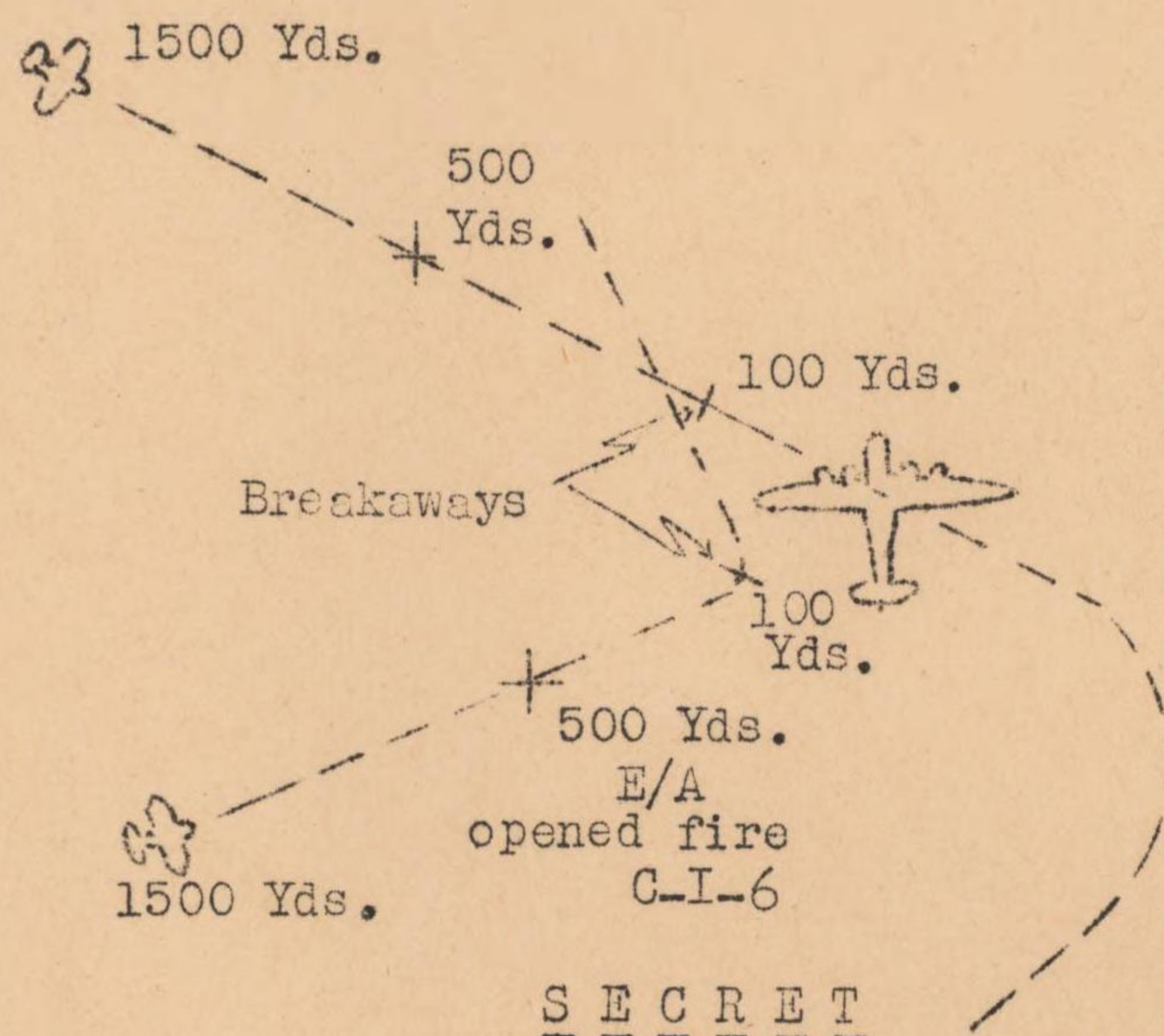
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(2) Two Tojos were sighted at 1500 yards level - one at 10 o'clock, the other at 8 o'clock. The Tojo at 10 o'clock attacked first, opened fire at 500 yards, closed to 100 yards, then flew over the B-29 out into a steep turn and dive to 8 o'clock. The second Tojo attacked a few seconds later from 8 o'clock level in a pursuit curve toward the nose of the B-29. The pilot opened fire at 500 yards, closed to 100 yards, then broke away to 11 o'clock, climbing. In both attacks the B-29 opened fire at 400 yards, but no hits were either claimed on the enemy aircraft nor reported on the B-29. Diagram follows:



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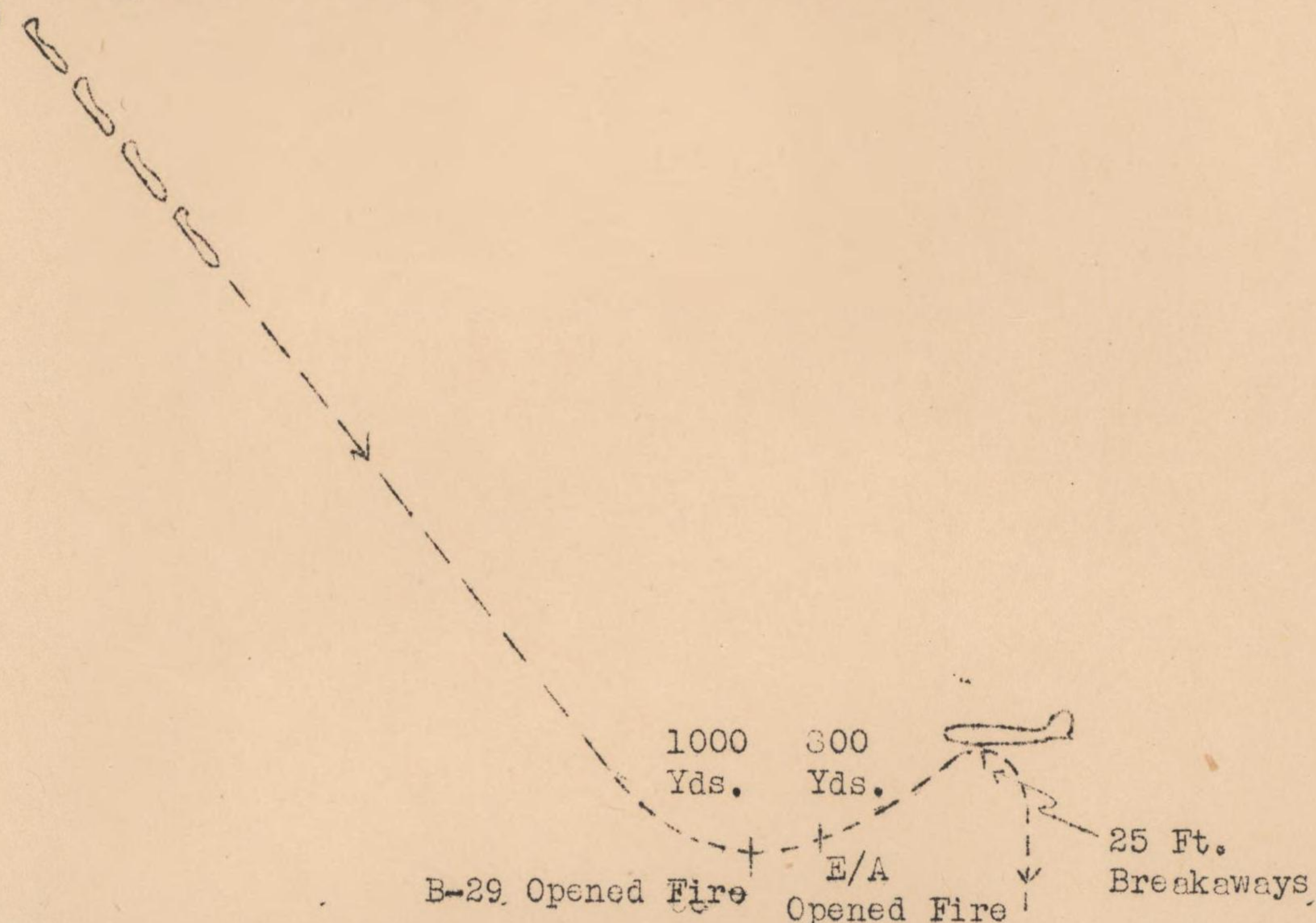
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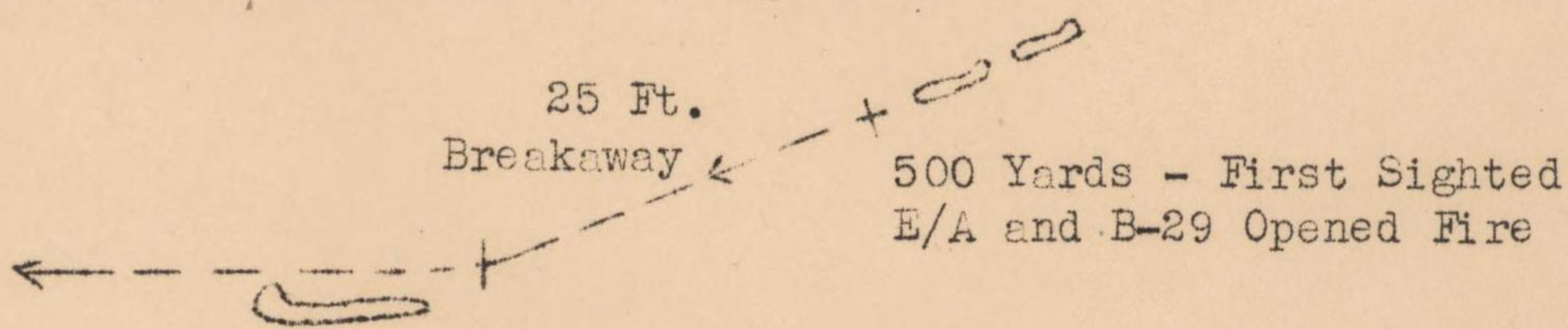
(3) Four coordinated attacks were reported by one B-29. In the first attack, 4 Oscars were sighted at 2000 yards high at 12 o'clock. They dived, in trail, below the level of the B-29, and pulled up for a belly attack, opening fire at 800 yards. The enemy pilots closed to 25 feet, broke off sharply, and went out at 9 o'clock. The B-29 opened fire at 1000 yards, and claimed one Oscar destroyed and one damaged. The B-29 reported damage to the extent of holes in the aircraft. Diagram follows:

(Note: This attack bears a resemblance to the "Belly Button" attack described in Tactics Bulletin #1, Hqrs. XXBC, dated 24 May 1944, except that the approach was from 12 o'clock high instead of the usual 6 o'clock low.)



In the second attack, 2 Tojos, whose pilots were described as "eager", were sighted high at 12 o'clock, 500 yards away. The Tojos and the B-29 opened fire immediately at this range, with the Japanese pilots closing to 25 feet before breaking away and out at 6 o'clock. The B-29 claimed one Tojo destroyed and one damaged, and reported damage to itself to the extent of holes in the aircraft. Diagram follows:

(Note: This is the favorite and dangerous "12 o'clock Express". Skillful enemy pilots may continue this dive directly through a formation.)



C-I-7

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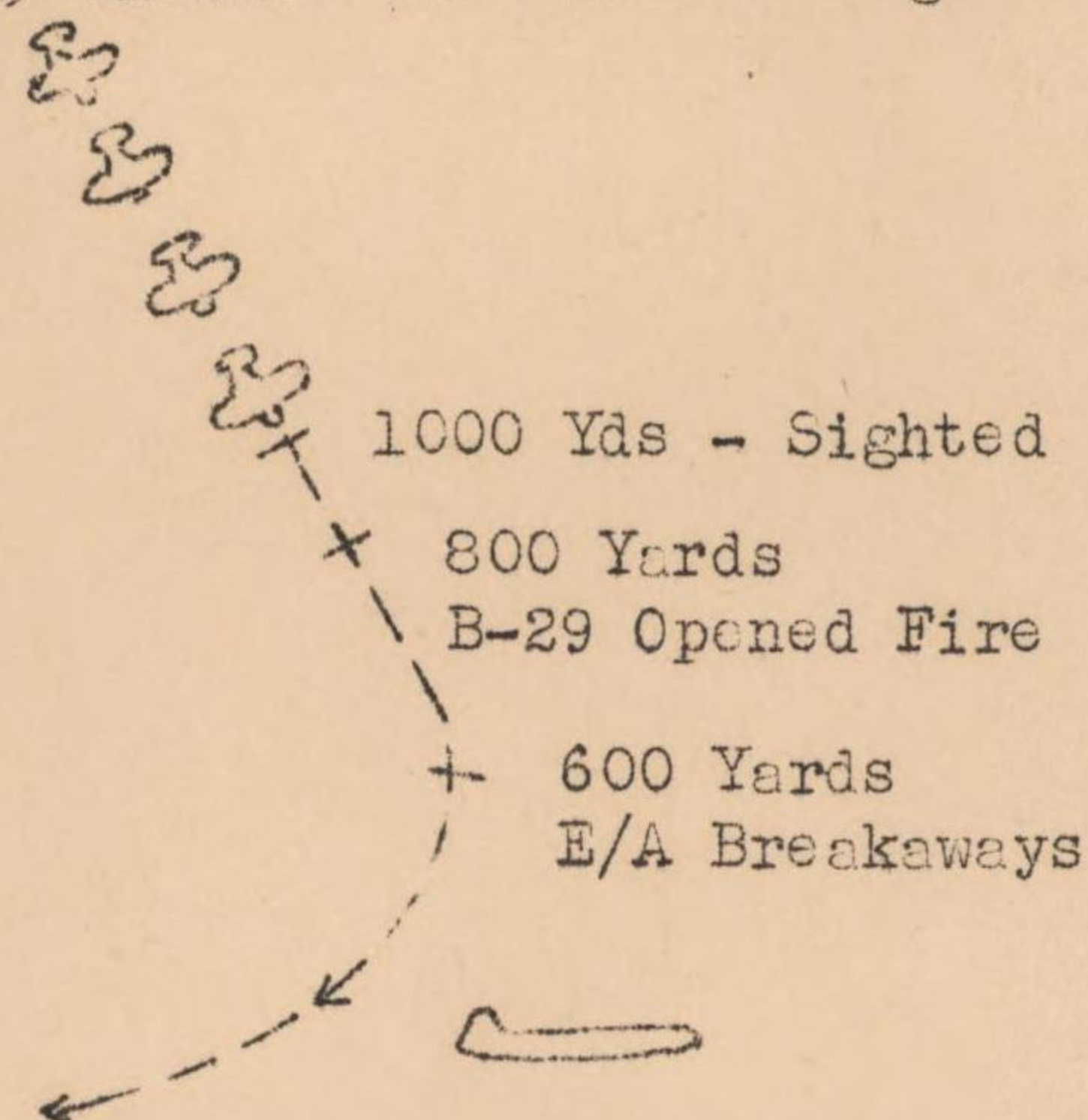
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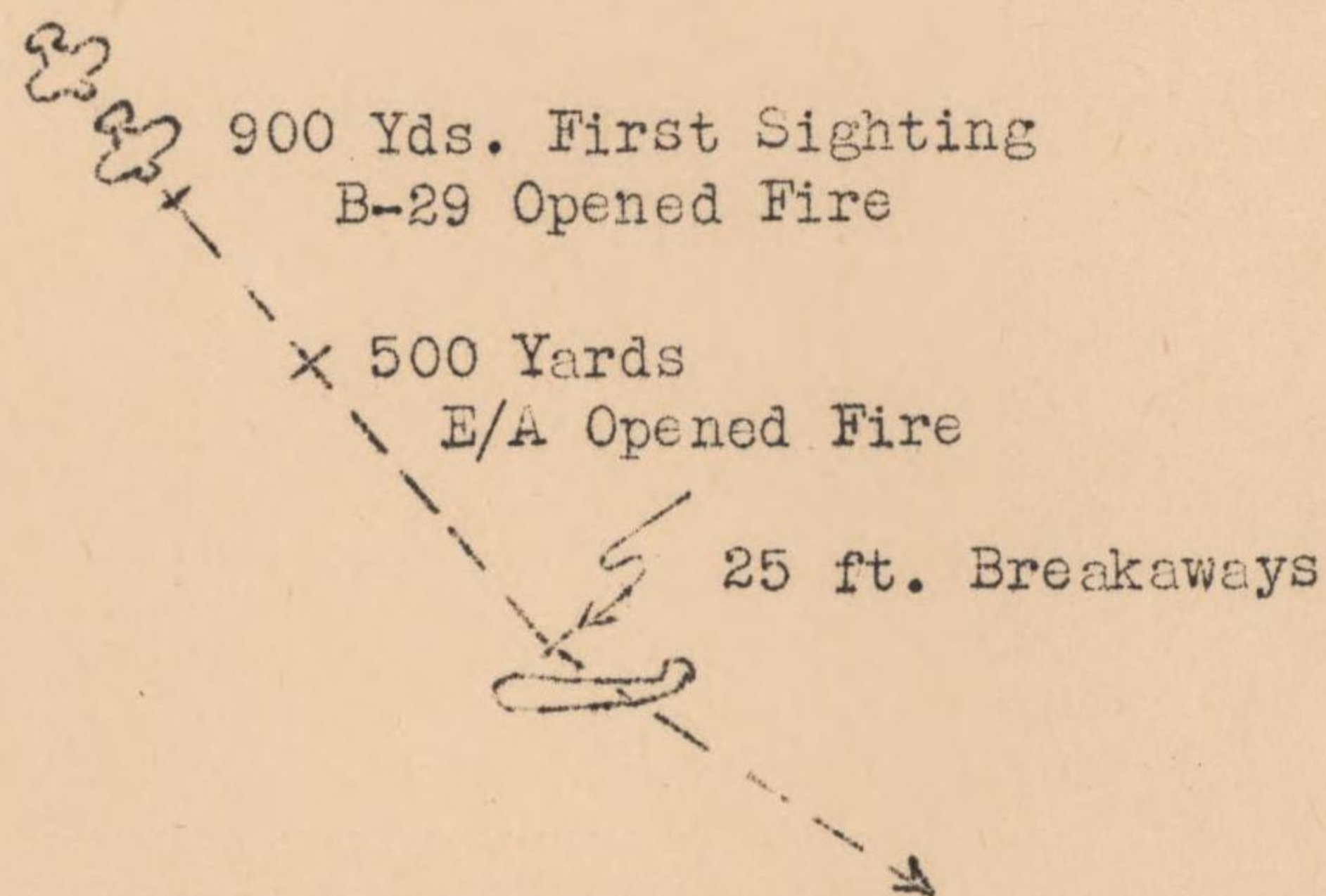
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In the third attack, 4 Oscars came in from 8 o'clock high, in trail. They were sighted at 1000 yards. The Oscars and the B-29 opened fire at 800 yards, and the enemy aircraft broke away at 600 yards going out at 5 o'clock, past the tail. The B-29 claimed one Oscar damaged. Diagram follows:



In the fourth attack, 2 Tojos were sighted at a distance of 900 yards, at 2 o'clock high, attacking in trail. The B-29 opened fire immediately. The enemy aircraft fired at 500 yards, continued on to a breakaway at 25 feet, and went out at 7 o'clock. One Tojo was claimed as damaged. Diagram follows:



7. Breakaways

Again no preference was indicated for any one breakaway maneuver. Dives and peel-offs predominated, with some split S's, climbing turns, and wing-overs observed. In several encounters, enemy pilots, disdaining sharp breakaways, merely continued on course, flying over or under the B-29 and out of range.

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8. Rockets

None reported.

9. New Aircraft

None reported.

10. Evasive Action

Several reports of evasive action against enemy aircraft included gaining and losing altitude, turning in to the enemy fighters, and increasing speed. No unusual action was employed.

11. Summary

- a. Enemy air opposition rated as weak and ineffectual.
- b. Majority of attacks away from target areas on the route back.
- c. Three B-29's known damaged as a result of enemy air action. Claims against enemy aircraft are 2 destroyed, 2 probably destroyed, and 12 damaged.
- d. Twelve coordinated attacks accounted for 65% of the total individual encounters.
- e. Majority of attacks from frontal quarter (32%). Of attacks on all quarters, 46% were high, 17% were level, and 37% were low.
- f. Enemy opened fire in 66% of the encounters and B-29's in 83%, 67% of enemy fire being under 1000 yards.
- g. Enemy pilots aggressive, 41% of the encounters being pressed to 100 yards or less with many as close as 25 feet.
- h. One aerial bombing attack. No phosphorous bombs observed.
- i. No unusual tactics, new aircraft, or rockets reported.
- j. Little evasive action by B-29's.

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ENEMY AIRCRAFT MARKINGS

<u>Color</u>	<u>A/C</u>	<u>Wing and Fuselage Markings</u>	<u>Tail</u>
- - -	TOJOS	Yellow stripes around cowling.	2 yellow stripes diagonally across tail.
Brown camouflage	TONY		
OD camouflage	OSCARS	Rising sun in middle of fuselage.	
- - -	TOJO	- - -	Black lightning flash
- - -	NICK	- - -	Black lightning flash
- - -	TOJO	Red stripe around fuselage.	- - -
- - -	OSCARS	Red balls under wings.	Red ball on fin
- - -	TONYS	Red balls under wings	Red ball on fin
Reddish-rust camouflage	TOJO	- - -	- - -
Brown	IRVING	- - -	Either swastika or crossed black lightning flashes
Black	TOJO	- - -	No-markings
- - -	ZEKE	- - -	No markings
Solid black	NICKS	- - -	
OD	TOJO	- - -	
Mottled	HAMPS	Mottling combined red, blue, black, white and green. Red spinners	Red, black and white horizontal stripes
Blue	TONY	Blue with yellow markings.	- - -
Blue	ZEKE	Blue with yellow markings.	- - -
- - -	TONYS	Orange engine cowlings.	

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<u>Color</u>	<u>A/C</u>	<u>Wing and Fuselage Markings</u>	<u>Tail</u>
OD	HAMP	Black circles on wings	- - -
Silver	ZEKE	- - -	- - -
Silver	SALLY	Red sun both sides of wings	- - -
- - -	NICK	Red ring on fuselage close to tail.	- - -
Camouflaged	TONY	Red ball on wing	Rudder painted red with horizontal yellow stripes and a blue letter.
Silver	TONYS	Red sun on sides of wings	- - -
Silver	TOJOS	- - -	- - -
Mottled green and brown	TONYS	- - -	- - -
Silver	TOJOS	- - -	- - -

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ANNEX

D

WEATHER INFORMATION

- I - Weather Information
- II - Chart - Weather as Forecast and Encountered
- III - Synoptic Map

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I - WEATHER INFORMATION

Mission No. 16

11 November 1944

	As Forecast	As Encountered
Base (Take-off)	Altostratus overcast, base 10,000', top 12,000'. Visibility 2 miles for take-off lowering to 1 mile at dawn.	<u>Kwangshan</u> : Overcast stratocumulus at 5000'. Visibility 5 miles. <u>Pengshan</u> : Overcast at 10,000' M.S.L. with patches of stratocumulus at 6000' M.S.L. Visibility 4 miles in haze. <u>Kiunglai</u> : Overcast at 4000' above terrain. Visibility 1-2 miles in haze and dust. Wind NW - 5 mph. <u>Hsinching</u> : Overcast stratus at 5500' (4000' ceiling). Visibility 3 miles in haze. Wind NNW - 8 mph.
Route Out	Altostratus overcast, base 10,000', top 12,000', becoming broken beyond Ankang and becoming nil at 115 deg E. In the hill area there will be broken stratocumulus, base 5000', top 7500' which will become scattered beyond the hills and nil at 113 deg E. At the coast there will be a stratus or stratocumulus overcast, base 2500', top 4000' which will become scattered over the sea.	<u>BASE TO 110 deg E.</u> : Overcast SC, base 5000', tops 8-10,000'. In the weak trough area at 107 deg E. Moderate haze layer to 18,000'. The layers diverged and broke off at 110 deg E. <u>110 deg E. TO 125 deg E.</u> : The undercast SC became broken at 113 deg and scattered at 118 deg E. Moderate haze layer to 18,000' with light to moderate turbulence in clear above 15,000'. <u>125 deg E. TO TARGET</u> : Overrunning layers of AS and CS mixed with CC. The base of the layers was at 17,000' at 127 deg E. and extended to above 27,000' over the target. 5/10 SC at 8000' at 127 deg E. appeared to extend into the target area. Moderate to severe turbulence in the cirrocumulus clouds above 20,000'. Light icing from 17,000 to 22,000'
Target Area	3/10 stratocumulus, base 2500' top 3500'. Visibility 35 miles. <u>Target Pressure: 30.12 inches.</u> <u>Mean Temperature to 22,000':</u> -8 deg C.	<u>Primary Target</u> : Broken to overcast cirrocumulus and cirrostratus from 22,000' to above 27,000'. Undercast layers below 22,000'. Moderate turbulence at altitude. <u>Secondary Target</u> : 8/10 SC at 5000' at 0700 China Time dissipating to 3/10 by 0800. Visibility 10 miles in haze. <u>Tertiary Target</u> : 2/10 SC. Visibility 10 miles in haze.

S E C R E T

	As Forecast	As Encountered
Return Route	No change except that the overcast on the China Coast will have become broken and between 113 deg E. and 107 deg E., the stratocumulus will have become cumulus with tops at 8000'.	Weather and clouds essentially the same as the route out. The weak trough area had moved to approximately 110 deg E. with moderate turbulence and light icing in clouds to 19,000' in this area. The clouds sloped to broken at 10,000' at 105 deg E.
Base on Return	Broken altostratus-altocumulus, base 10,000'. Visibility 10 miles.	<u>Kwangshan</u> : Thin broken altostratus at 10,000'. Visibility 9 miles. <u>Pangshan</u> : Broken altostratus and altocumulus at 9000' M.S.L. <u>Kiunglai</u> : Overcast at 6000' M.S.L. <u>Hsinching</u> : Scattered altocumulus at 10,000' and scattered cumulus at 3000'. Visibility 8 miles.
Freezing Level	9000'. Light rime in altostratus.	

A. Winds Aloft - Forecast

Altitude	Terminal	Halfway	Target
5,000'	240 deg - 07K		
10,000'	270 deg - 15K	250 deg - 22K	260 deg - 22K
15,000'	280 deg - 30K	270 deg - 35K	270 deg - 32K
20,000'	290 deg - 42K	280 deg - 45K	260 deg - 45K
25,000'	280 deg - 55K	270 deg - 58K	270 deg - 60K

B. Winds Aloft - Encountered

Altitude	Central China	Primary Target	Secondary Target
12,000'	250 deg - 35K		
14,000'	250 deg - 35K	255 deg - 40K	
15,000'			250 deg - 50K
18,000'		245 deg - 50K	
20,000'			260 deg - 60K
26,000'		280 deg - 65K	

S E C R E T

C. Target Temperatures

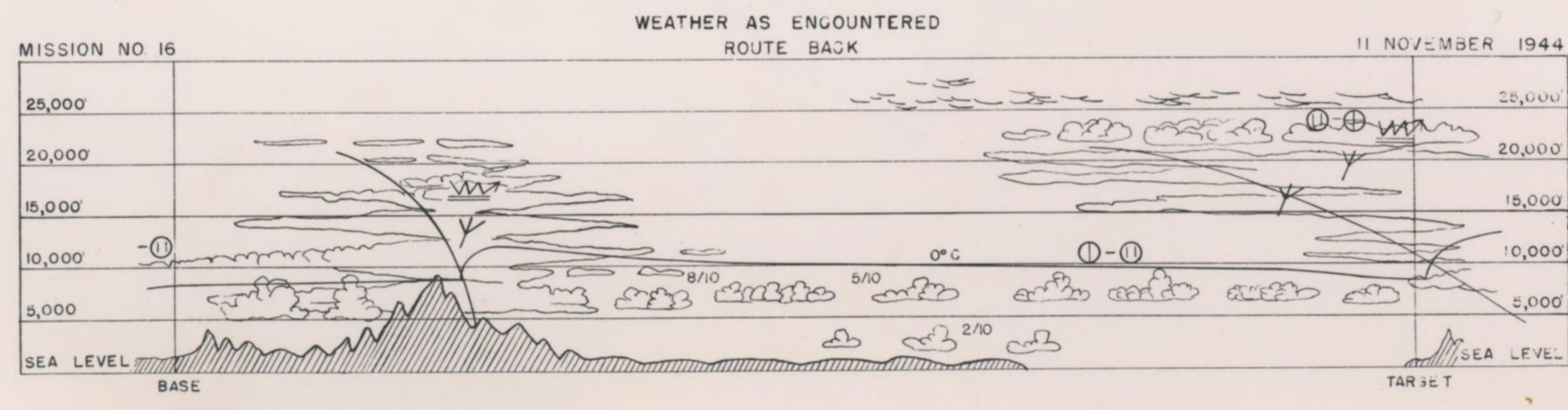
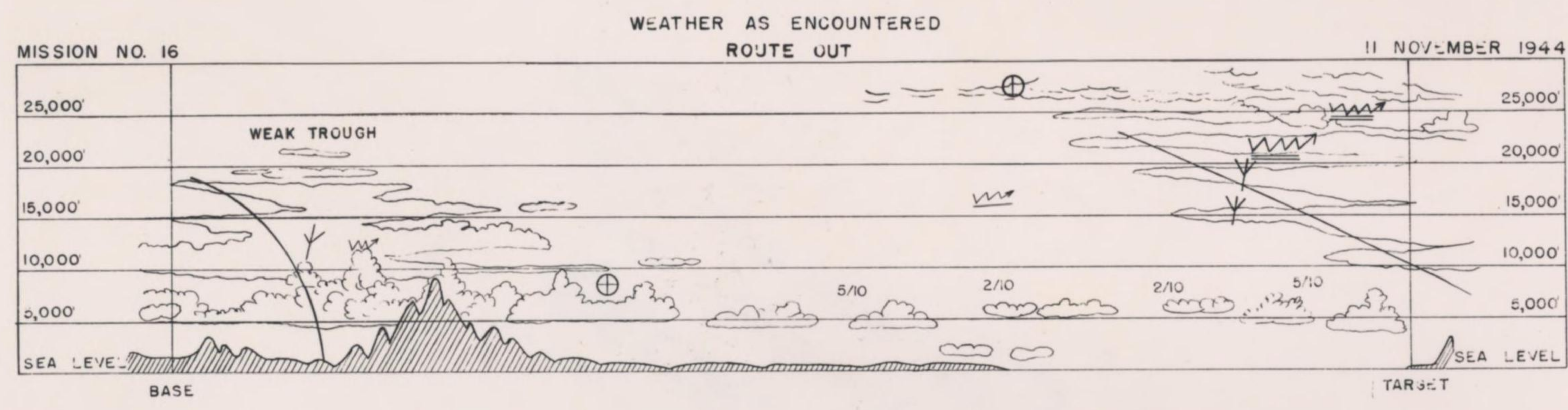
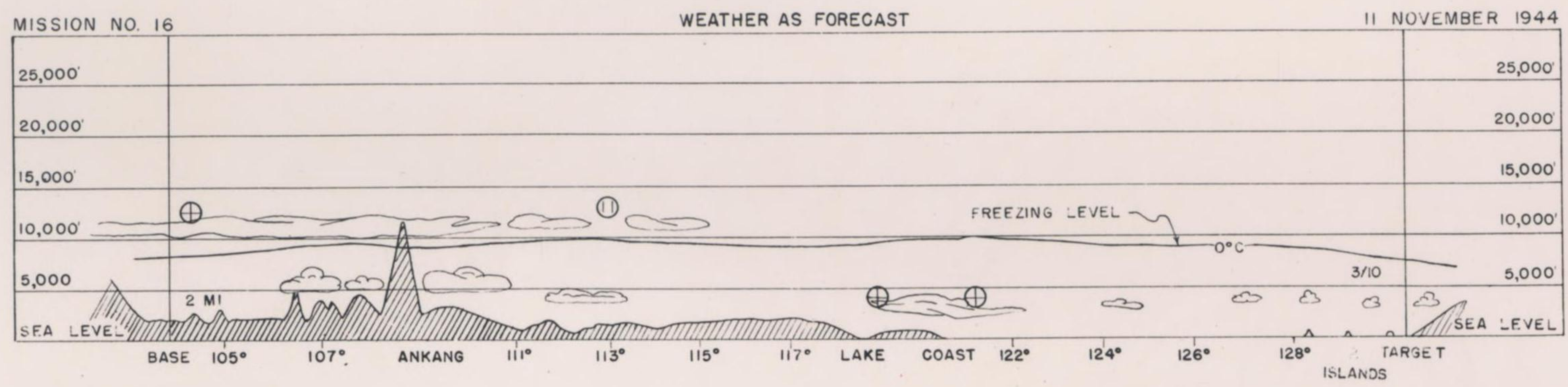
Forecast:

Altitude	Temperature
5,000'	6 deg C.
10,000'	-2 deg C.
15,000'	-14 deg C.
22,000'	-29 deg C.

Encountered

Altitude	Temperature	
	Primary Target	Secondary Target
15,000'		-15 deg C.
18,000'		-18 deg C.
21,000'	-22 deg C.	
25,000'	-25 deg C.	-30 deg C.

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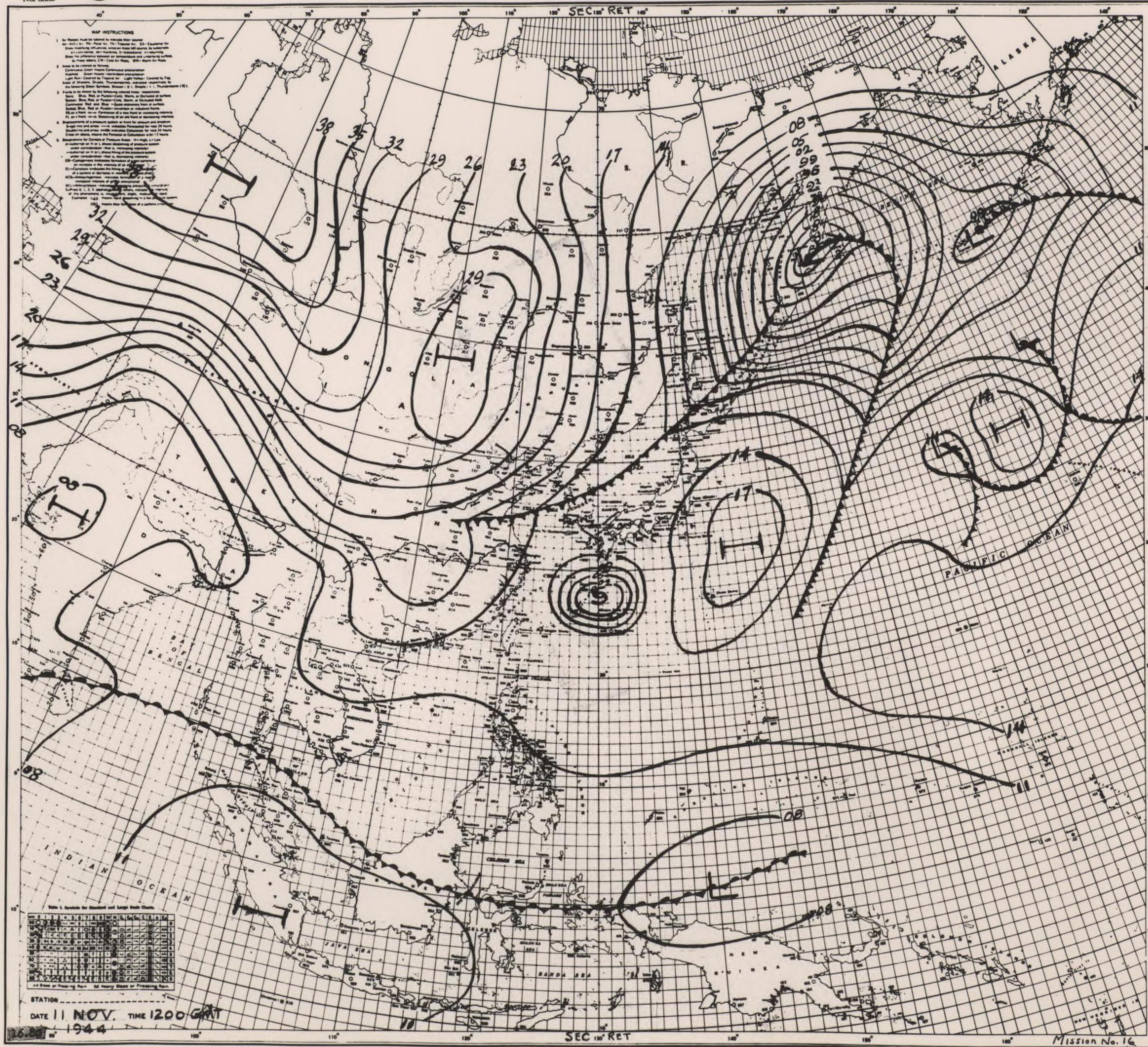




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By **SMARA** Date **11/30**



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ANNEX

E

COMMUNICATIONS INFORMATION

* * * * *
* Prepared by: *
* * * * *
* Communications Section *
* * * * *
* XX Bomber Command *
* * * * *

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E.O. 11652, Sec. 3(E) and 5(D) of (F)
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By *CD/MT* NARS, Date OCT 21 1975

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: Auth: CG XX BC :
: Date: 15 Nov. 44: :
: Initials: YDH :
: : : : : : : : :

HEADQUARTERS
XX BOMBER COMMAND
APO -93

CONSOLIDATED
SPECIALIST MISSION
REPORT OF

XX BOMBER COMMAND COMMUNICATIONS (RADIO) OFFICER

Date prepared: 16 November 1944

Field Orders No.: 16

Date of Mission:
11 November 1944.

1. Mission number Sixteen presented a paradox in that in one aspect concerning communications it was one of the most efficient so far flown by this Command, but that in a secondary, and more important aspect, communications were almost a total failure.

2. The secondary aspect referred to was the transmission of a change of target message to the aircraft while they were enroute to the target originally scheduled in the Field Orders. Receipt of this message by the aircraft was entirely unsatisfactory. There were a number of contributory factors, but the outstanding are believed to be:

a. The fact that at no time previously had such a type of communication been attempted, which resulted in the introduction of a sequence of communications procedures with which communications personnel had had no previous actual tactical experience.

b. A high static level, due to the inclement weather encountered which hampered reception.

c. Too much delay between the time the message left CP and the time the message was actually broadcast by the Group stations.

d. Personnel and equipment failures.

e. The above points are more thoroughly explained and a time study of the traffic involved will be published at a later date as Annex 1 to this report.

3. The initial aspect mentioned in paragraph 1 above, referred to those communications procedures with which, having been previously used, the aircrew members are thoroughly acquainted. Notwithstanding that inclement weather caused a dispersal of aircraft with a consequent increase in message traffic, all such traffic was handled satisfactorily and compliance with the provisions of Tactical Doctrine by the aircraft was excellent. A compilation of the number of messages successfully passed is as follows:

	<u>40th GP</u>	<u>444th GP</u>	<u>462nd GP</u>	<u>468th GP</u>
a. Aborts:	3	1	0	1
b. Bombs Away:	11	17	10	22
c. Attack:	4	8	3	4
d. Convoy sighting:	6	5	5	12
e. YYY-position:	14	22	15	21

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4. Aircraft which did not comply with all the provisions of Tactical Doctrine and the reason for non-compliance is as follows:

- a. 40th Group:
 - (1) A/C 574 did not repeat sighting message to CQØ
 - (2) A/C 331, 334 and 394 did not send YYY-position report. However, aircraft may have been in formation with another aircraft which did send a message as flight leader.
 - (3) A/C 6301 did not send YYY-position report when returning from abort due to gasoline fumes within the A/C.
- b. 444th Group:
 - (1) A/C 300, 307 and 419 which are missing.
- c. 462nd Group:
 - (1) A/C 581 and 285 which returned to base immediately after takeoff and therefore did not send Abort message.
 - (2) A/C 505 did not send "bombs away" message, its transmittal being withheld by the Airplane Commander.
- d. 468th Group:
 - (1) A/C 365 which is missing.

5. A study of ground station and aircraft logs indicates that a relatively high static level as compared to signal strength and readability occurred during the major portion of the mission. Comparative figures on the frequencies in use, divided into two hour periods are as follows. Time indicated is GMT:

GROUND STATION TO AIRCRAFT

<u>Frequency</u>	<u>1830-2030</u>	<u>2030-2230</u>	<u>2230-0030</u>	<u>0030-0230</u>	<u>0230-0430</u>
8545 kc	S5 R4 W2	S3 R2 W3	S2 R2 W4	S3 R3 W3	S5 R5 W1
8260 kc	S5 R5 W2	S4 R4 W2	S3 R3 W3	S2 R2 W4	S2 R2 W4
8495 kc	S3 R2 W3	S3 R2 W3	S0 R0 W3	S3 R3 W3	S3 R3 W2
12415 kc	Not used	Not used	S3 R3 W3	S3 R3 W2	S3 R3 W2

<u>Frequency</u>	<u>0430-0630</u>	<u>0630-0830</u>	<u>0830-0950</u>
8545 kc	S5 R5 W1	S5 R5 W1	--
8260 kc	S3 R3 W2	S4 R4 W1	S5 R5 W1
8495 kc	S3 R3 W2	S4 R4 W1	--
12415 kc	S3 R3 W2	S4 R4 W1	S5 R5 W1

AIRCRAFT TO GROUND STATION

<u>Frequency</u>	<u>1830-2030</u>	<u>2030-2230</u>	<u>2230-0030</u>	<u>0030-0230</u>	<u>0230-0430</u>
8260 kc	S5 R5 W2	S3 R3 W2	S3 R3 W3	S2 R2 W4	S2 R2 W4
8495 kc	--	--	--	S3 R3 W2	S4 R4 W1
8545 kc	S4 R4 W2	S2 R2 W4	S2 R2 W3	S3 R3 W2	S4 R4 W2
12415 kc	--	--	S3 R3 W2	S3 R3 W3	S2 R3 W2

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<u>Frequency</u>	<u>0430-0630</u>	<u>0630-0830</u>	<u>0830-0950</u>
8260 kc	S3 R3 W2	S4 R4 W2	S5 R5 W1
8495 kc	S4 R4 W1	S5 R4 W1	--
8545 kc	S4 R4 W1	S4 R4 W1	--
12415 kc	S3 R3 W1	S4 R4 W1	S5 R5 W1

Note: The 468th Group was the only Group making extensive use of the assigned 12 megacycle frequency, hence the compilation of comparative figures on only one 12 megacycle frequency.

The 462nd Group reported that no compilation of comparative figures was submitted on the eight megacycle frequency of 8310 kilocycles used by that Group for the reason that aircraft of that Group encountered storms through practically the entire mission and atmospherics were so bad that aircraft could only be contacted sporadically.

6. The following statistical data was compiled regarding the use of aids to air-navigation; all distances in statute miles:

a. Radio Homing Beacons:

<u>Location</u>	<u>No of A/C Reporting</u>	<u>Average Initial Contact</u>	<u>Extreme Initial Contact</u>
Ankang (PR)	32	180 miles	210 miles
Hsinching (CU)	32	105	285
Liangshan (ML)	33	122	197

b. Radio Range:

<u>Location</u>	<u>No. of A/C Reporting</u>	<u>Average Initial Contact</u>	<u>Extreme Initial Contact</u>
Hsinching (CU)	13	73 miles	91 miles
Kwanghan (LK)	10	100	180

c. Requests for D/F aid by station and frequency are as follows:

<u>Station</u>	<u>Frequency</u>	<u>No. of Requests</u>	<u>Class of bearing given</u>		
			<u>I</u>	<u>II</u>	<u>III</u>
40th Gp - 7A3	8545 kc	8	6	2	0
444th Gp - 3B8	8495 kc	2	1	1	1
462nd Gp - 7D3	8310 kc	8	7	0	1
468th Gp - 5D5	8260 kc	5	0	0	5
A/C Traffic Control Center-					
WZSQ	5945 kc	2	1	0	1
	4275 kc	1	1	0	0

d. Air to air homing was attempted by all Groups, with results as indicated below:

40th Group - A/C 396 sent homing signals for approximately 20 minutes for A/C 237 to home on. Homing was not accomplished.

444th Group- A/C 492 sent homing signals on 520 kilocycles. No aircraft achieved rendezvous with 492. A/C 423 sent homing signals on 1280 for 15 minutes. Two aircraft achieved rendezvous with 423.

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462nd Group - A/C 461 reported being unable to pick up homing signals. A/C 475 reported static interference being too heavy to use air-to-air homing. A/C 463 (deputy flight leader) sent homing signal at first rendezvous point. Two aircraft joined 463 in formation from a distance of approximately 40 miles utilizing 463's homing signals.

468th Group - A/C 3354 sent homing signals at rendezvous point. Two aircraft joined 3354 by utilizing 3354's homing signals. Poor results are contributed to heavy cloud formation which prevented visual contact after approach had been made by air-to-air homing.

7. All Groups reported interference near assigned frequencies. Only that interference logged by the 462nd Group proved to be of any hindrance to communications. Call signs and frequency used will be forwarded to Theater Headquarters for investigation. Nothing that could be considered as jamming on the part of the enemy was logged during the mission.

8. Transmission Security monitoring was carried on by the 413th Signal Company Radio Intelligence Platoon during the mission period. The consolidated Monitoring Report will be published as Annex II to this report at a later date.

9. No violations of Cryptographic Security were reported by Group Specialists, with the exception of the 468th Group which considered the fact that A/C 365 transmitted a message telling of his intended landing at an alternate base a violation inasmuch as it was sent in the clear.

10. Malfunctions of equipment were as follows:

a. 40th Bomb Group:

- (1) A/C 508 lost part of command antenna due to icing conditions. Also lost lead in from SCR-269G sense antenna due to icing.
- (2) A/C 831 had faulty radio compass. Throat microphones in Navigators and Co-pilots positions were replaced with Microphone T-17.
- (3) A/C 303 had faulty AN/ART-13 transmitter. Dial "E" refused to lock.
- (4) A/C 522 encountered faulty cable to Compass Loop. Cable worked loose in flight, but was repaired.
- (5) A/C 407 lost Command and Liaison Antenna due to icing.
- (6) A/C 276 lost Command and Liaison Antenna due to icing. Trailing wire was used until it became entangled in Antenna Post of SCR-718 and broke off.
- (7) A/C 394 had Dynamotor BC-348-0 burn out. Liaison Antenna was shot off in flight and trailing wire antenna malfunctioned, not extending more than five feet.
- (8) A/C 294 lost Compass sense antenna (whip type) and interphone system malfunctioned at high altitude.

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- (9) A/C 582 lost Compass sense antenna (flat-top type)
- (10) A/C 344 sustained following battle damage: Command, liaison and compass sense antenna (whip type) were shot off and interphone wiring system in bomb-bay was severed by gun-fire.
- (11) A/C 331 had a malfunction in Radio Compass tuning system, the tuning cable breaking off near the elbow in the forward bomb bay.

b. 444th Bomb Group

- (1) A/C 204 lost radio compass sense antenna during flight.
- (2) A/C 225 lost radio compass sense antenna during flight.
- (3) A/C 538 had malfunction of AN/ART-13 transmitter. Keying relay was inoperative.
- (4) A/C 262 encountered faulty interphone. Replacing interphone amplifier tube remedied fault.
- (5) A/C 352 lost command antenna.

c. 462nd Bomb Group:

- (1) A/C 456 had command set failure immediately after takeoff. Fault located in frayed wiring at tunnel entrance where wiring had been scuffed by personnel entering tunnel. Repaired in flight. Faulty AVC circuit in Liaison Receiver. Faulty microphone in bombardier's position.
- (2) A/C 311 had one compass indicator malfunction.
- (3) A/C 475 lost radio compass sense antenna leading due to ice. Command antenna was substituted.
- (4) A/C 278 encountered faulty command receiver. Not repaired in flight.
- (5) A/C 270 found Radio Compass Receiver had low sensitivity.
- (6) A/C 213 had AN/ART-13 transmitter malfunction. Tune-operate switch failed.
- (7) A/C 506 had fault in Dynamotor PE-86 in that it overheated. End bells were removed allowing dynamotor to cool.
- (8) A/C 312 had AN/ART-13 transmitter malfunction. Vacuum relay became "sticky".

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d. 468th Bomb Group:

- (1) A/C 4546 had faulty interphone. Fault cleared in flight by cleaning dynamotor commutator and brushes.
- (2) A/C 272 had faulty interphone. Fault cleared in flight by replacing navigator's jackbox which had developed short circuit.
- (3) A/C 284 lost Radio Compass sense antenna (whip type)
- (4) A/C 6409 had faulty Tail Gunners microphone switch. Fault cleared by replacing switch.
- (5) A/C 217 had faulty interphone. Fault cleared by replacing broken lead in dynamotor.
- (6) A/C 6265 had faulty An/ART-13 transmitter. Transmitter refused to tune properly. Trouble not located at time Group Specialists report was submitted.
- (7) A/C 415 lost liaison and radio compass sense antennas. Used trailing wire for liaison antenna and substituted command set antenna for compass sense antenna.

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ANNEX 1 TO COMMUNICATIONS SPECIALISTS REPORT ON FIELD ORDER NUMBER 16

1. Following is a time study involving message handling time of the change of target message sent on Mission Number 16. The message consisted of fifty-eight groups and was classified TOP SECRET and Urgent.

2. The message was filed for transmission at 2112Z, and was sent via teletype, being receipted for by the various Groups as follows:

<u>444th Group</u>	<u>462nd Group</u>	<u>468th Group</u>
2122Z	2115Z	2115Z

Note: The added time of transmission to the 444th Group is accounted for by the fact that the message was transmitted on a different teletype loop than that to 462nd and 468th Groups.

3. As the message was being readied for transmittal to the 40th Group on still another teletype loop, a representative of the Intelligence Section made an alteration to the message as originally filed. Therefore, transmission to the 40th Group was withheld until corrections to the message were made.

4. The corrected message was filed for transmittal at 2140Z, and was receipted for by the various Groups as follows:

<u>40th Group</u>	<u>444th Group</u>	<u>462nd Group</u>	<u>468th Group</u>
2141Z	2155Z	2145Z	2145Z

5. After necessary handling by Group personnel, which included decoding, coordination and manual encoding in CSP 1270 (), the message was initially transmitted to aircraft at the following times.

<u>40th Group</u>	<u>444th Group</u>	<u>462nd Group</u>	<u>468th Group</u>
2215Z	2228Z	2215Z	2250Z

6. After having transmitted the message twice, the 468th Bomb Group ascertained that the message had been erroneously encoded, and transmitted the correctly encoded message at 2332Z. The 444th Group encountered a transmitter breakdown which put that Group off the air for twenty minutes, but the message had already been sent twice.

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7. A resume of the times involved as regards corrected message follows:

Organi- zation	Time Message Transmitted at CP	Time Message Received at Gp	Elapsed Time	Time Message Transmitted by Gp	Elapsed Time	Total Elapsed Time
40th	2140Z	2141Z	1 min	2215Z	34 min	35 min
444th	2140Z	2155Z	15 min	2228Z	33 min	48 min
462nd	2140Z	2145Z	5 min	2215Z	30 min	35 min
468th	2140Z	2145Z	5 min	2250Z	65 min	70 min

Note: Time differential shown for 40th Group is accounted for by fact that message was transmitted in the clear to this organization.

8. Averages are as follows:

a. Average time for transmittal of message from CP to Groups: 6-1/2 minutes.

b. Average time for Groups to decode, coordinate, encode and transmit: 40-1/2 minutes.

c. Average time from time of transmittal at CP to time of transmittal by Groups: 47 minutes.

9. Total number of aircraft, which received the messages either directly from ground station or by relay from other aircraft is as follows:

<u>40th Bomb Gp</u>	<u>444th Bomb Gp</u>	<u>462nd Bomb Gp</u>	<u>468 Bomb Gp</u>
16	1	9	4

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ANNEX # 2 TO CONSOLIDATED SPECIALIST MISSION REPORT

THE FOLLOWING DISCREPANCIES WERE EXTRACTED FROM THE INTERCEPT LOGS OF THE RADIO INTELLIGENCE PLATOON OF THE 413TH SIGNAL COMPANY (AVN) DURING THE PERIOD NOV 10 - NOV 11, 1730Z UNTIL 0730Z.

40TH BOMBARDMENT GROUP - FREQUENCY 8545 KCS - GROUND STATION 7A3
CALL SIGN

NO BOMBS AWAY MESSAGES WERE HEARD ON THIS FREQUENCY.

0319Z 294 V 7A3 K K
7A3 V 294 NR1 110300Z GR2 BT YYYDY YYY01 YYY01 / K
V 7A3 IMI AA NR1 IMI AA NR1 K
V 294 NR1 110300Z GR2 BT YYY01 YYY01 / K
V 7A3 IMI AA YYYDY K
V 294 R AA YYYDY 01 YYYDY 01 YYY01 YYY01 K
V 7A3 R NR1 AR

(VIOLATION OF SECTION VIII TACTICAL DOCTRINE - COMMUNICATIONS - PART I, PAR. 3 A (1). THIS MESSAGES SHOULD HAVE BEEN SENT AS FOLLOWS:)

7A3 V 294 NR1 110300Z BT YYYDY 01 K

THIS WAS THE ONLY VIOLATION OF THE ABOVE TYPE MESSAGE.

GROUND STATION SENT "V'S" AT IMPROPER TIME - 1850Z

7A3 FAILED TO SEND "V'S" AT FOLLOWING SCHEDULED TIMES WHEN NET WAS CLEAR - 2145Z - 2200Z - 2215Z - 2245Z - 2300Z - 2315Z - 2345Z

7A3 FAILED TO SEND SCHEDULED WEATHER BROADCAST AT FOLLOWING TIMES - 2230Z - 2330Z.

THROUGHOUT THIS MONITORING PERIOD GROUND STATION 7A3 AND AIRCRAFT FAILED TO COMPLY WITH FM 24-10. EXAMPLE:

0438Z 589 V 7A3 / INT QDM INT QDM INT QDM KK
V 589 (NO CALL) R R C C K K
V 7A3 (NO CALL) R R QDM QDM

POOR PROCEDURE ALSO NOTED BY FOLLOWING AIRCRAFT.
004-6331-6254-294-522-508-457-3589-313-344

444TH BOMBARDMENT GROUP - FREQUENCY 8495 KCS - GROUND STATION
CALL SIGN 3B8

0358Z 3B8 V 321 NR1 110155Z GR2 BT PB501 PB501 BT K
(MESSAGE SHOULD HAVE BEEN SENT AS FOLLOWS:)
3B8 V 321 NR1 110155Z BT PB501 PB501 PB501 BT K
(VIOLATION OF SECTION VIII - COMMUNICATIONS - PART II,
PAR. 3 (5) (E).

FOLLOWING AIRCRAFT MADE SAME VIOLATION: 399

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444TH BOMB GROUP (CONT'D)

0448Z 378 V 3B8 BT INT QRU INT QRU QSV QSV BT BT K
3B8 V 378 FFF 110430Z BT TWO ATTACK PLANES UNKNOWN BT
AIRCRAFT BROKE IN AT THIS TIME CALL LETTERS 340
3B8 V 340 FFF 110430Z BT ATTACK ONE TOJO BT ATTACK ONE TOJO
BT AR

V 262 QMM K
3B8 V 378 110430Z BT TWO ATTACK PLANES UNKNOWN K
378 V 3B8 R NR3 AR

(378 SENT THIS TYPE MESSAGE AS "FOX" TYPE THEN REPEATS
MESSAGE AS NORMAL FORM AND 3B8 RECEIPTS FOR MESSAGE.
AIRCRAFT 340 AND 262 BREAK IN CAUSING CONFUSION IN THE
NET DURING THIS TRANSMISSION BETWEEN 378 AND 3B8.)

3B8 USED BOTH 4492 AND 492 WHEN COMMUNICATION WITH
AIRCRAFT 4492.

3B8 FAILED TO SEND "V'S" AT FOLLOWING SCHEDULED TIMES WHEN
NET WAS CLEAR - 2145Z - 2200Z - 2215Z - 2245Z - 2300Z -
2315Z - 2345Z - 2400Z

FAILED TO SEND SCHEDULED WEATHER BROADCAST AT FOLLOWING
TIMES: 2230Z - 2330Z

SENT WEATHER AT IMPROPER TIMES AT 2000Z- 2007Z.

VIOLATIONS OF FM 24-10 BY BOTH GROUND STATION AND A/C
THROUGHOUT THIS TIME WERE:

PLAYING WITH KEY AFTER TRANSMISSIONS (DIT DIT)
USE OF "BT" IN PROCEDURE MESSAGES.
FAILURE TO USE "IMI" WHEN REPEATING
IMPROPER NET DISCIPLINE (SEVERAL AIRCRAFT CALLING AT THE
SAME TIME)
EXCESSIVE USE OF "R" "AR" "AS" "K"

462ND BOMBARDMENT GROUP - 8310 KCS - GROUND STATION CALL SIGN 7D3

ALL BOMBS AWAY MESSAGES RECEIVED WERE SENT CORRECTLY.

0645Z 7D3 V 506 NR3 110645Z BT YYYXY BT K
(MESSAGE SHOULD HAVE BEEN SENT AS FOLLOWS)
7D3 V 506 NR3 110645Z BT YYYXY O1
OTHER AIRCRAFT COMMITTING SIMILAR VIOLATIONS WERE:
337 - 594 - 6213

0010Z 0053Z - 7D3 SENT THE FOLLOWING MESSAGE FIVE TIMES -
0010Z - 0015Z - 0025Z - 0030Z - 0044Z
0021Z REGULAR WEATHER BROADCAST WAS SENT
THE FOLLOWING MESSAGE IS THE ONE SENT FIVE TIMES:
333 V 7D3 NR1 O 102200Z GR44 IMI GR44
SZIF KJOV JJUV FWOP HJAC WQUC VLUX RCYR PNIK WDES PPIX NGOP
KJOV FQAZ CBYG JRYR TPUD ZDOB HFAL BZEL DTOB DZUR DBAL
KBIC GHUK ZFER LNAQ GPIH PWET NBYT WDES GNUM MRAG PQOL
RCYR PNIK WDES PKET TPUD DPOB JFOS MBIZ WDES NCAP - K
NO STATION WAS HEARD RECEIPTING FOR THIS MESSAGE

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462ND GROUP (CONTINUED)

OTHER DISCREPANCIES NOTED NOT IN ACCORDANCE WITH FM 24-10 BY BOTH GROUND STATION AND AIRCRAFT WERE::

USE OF SLANT BAR "/"
EXCESSIVE USE OF "IMI"
UNNECESSARY USE OF SEPARATOR SIGN
FAILURE TO USE "IMI" WHEN REPEATING
EXCESSIVE USE OF "L" "K" AND "AR"

7D3 FAILED TO SEND "V'S" AT PROPER TIME WHEN NET WAS CLEAR - 0515Z

7D3 SENT "V'S" AT IMPROPER TIME AT: - 0522Z - 0524Z

7D3 SENT WEATHER AT IMPROPER TIME AT: - 0021Z

468TH BOMBARDMENT GROUP - FREQUENCY 8260 KCS - GROUND STATION CALL SIGN - 5D5

ALL BOMBS AWAY MESSAGES WERE SENT CORRECTLY. NO CANNED POSITION REPORT MESSAGES WERE RECEIVED.

0623Z AIRCRAFT 292 HEARD CALLING 5X5 OUTMODED CALL SIGNS INSTEAD OF PROPER STATION 5D5.

POOR PROCEDURE NOTED GROUND STATION 5D5 IN RELATION (FM 24-10)
0035Z EX. (V 5D5 QTA NR1 QTA NR1 QTA NR1 QTA NR1 SENT SERIES OF "V'S" AR)
0120Z EX. (4486 V 5D5 SENT SERIES OF "V'S" RRR KKKK)
POOR PROCEDURE OF THIS SORT USED CONSTANTLY THROUGHOUT THIS TIME BY STATION 5D5.

OTHER DISCREPANCIES NOTED:

FAILURE TO USE "IMI" WHEN REPEATING
USE OF "BT" IN PROCEDURE MESSAGES
USE OF AS MANY AS SIX "K'S" AS TERMINATING SIGN
USE OF AS MANY AS FIVE "R'S" FOR RECEIPT
EXCESSIVE REPITITION OF "Q" SIGNALS (ONE "Q" SIGNAL BEING REPEATED AS MANY AS FIVE TIMES IN ONE TRANSMISSION)
PLAYING WITH KEY AFTER TRANSMISSIONS COMPLETED
SAME DISCREPANCIES NOTED BY FOLLOWING AIRCRAFT - 242 - 565

GENERAL PROCEDURE OF MOST AIRCRAFT GOOD

5D5 FAILED TO SEND "V'S" AT FOLLOWING SCHEDULED TIMES WHEN NET CLEAR - 2215Z - 2245Z - 2300Z

5D5 SENT "V'S" AT IMPROPER TIME: 2022Z

5D5 FAILED TO SEND WEATHER BROADCAST AT THE FOLLOWING SCHEDULED TIMES - 1930Z - 2130Z - 2230Z - 2330Z

5D5 SENT WEATHER AT IMPROPER TIME AT - 2100Z

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S E C R E T

ANNEX

F

RADAR

- I RADAR INFORMATION
- II RADAR TABLES

*PREPARED BY: *
* *
* RADAR SECTION *
* XX BOMBER COMMAND *

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HEADQUARTERS
XX BOMBER COMMAND
APO 493

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.SECRET .
.Auth: CG XX BC.
.Initials JBA .
.Date 15 Nov 44.
.....

CONSOLIDATED
SPECIALIST MISSION
REPORT OF

XX BOMBER COMMAND RADAR OFFICER

Date Prepared 15 November 1944 Field Orders No. 16
Date of Mission 11 November 44

I - Radar Information

A - Radar Bombing

Radar and Visual bombing was used in bombing the targets on this mission by approximately an equal percentage of aircraft. Thirty-three (33) aircraft or forty-three (43%) per cent bombed all targets by radar. Radar bombing was used by ninety (90%) per cent of the aircraft bombing Omura, thirty-three (33%) per cent bombing Shanghai and four (4%) per cent bombing Nanking. The Targets of Opportunity were bombed by radar by seventeen (17%) per cent or two (2) aircraft. Radar-Bombsight procedure was used in a number of the visual bombings. Reports indicate crew coordination was excellent on the bombing run.

B- Radar Navigation

Navigation by radar was a great aid on this mission due to atmospheric conditions. Average mapping range for the AN/APQ-13 radar equipment was forty-one and three tenths (41.3) nautical miles. Many excellent radar navigational check points were identified at useable ranges. Table C, Section II lists a number of these check points, giving the average range of identification in nautical miles. The target of Omura was sighted by radar at an average range of twenty-nine and nine tenths (29.9) nautical miles, while Shanghai and Nanking were sighted at ranges of twenty-nine and seven tenths (29.7) and thirty and two tenths (30.2) nautical miles respectively. The initial point, Oujima Island, was sighted at twenty-seven and five tenths (27.5) nautical miles. The total number of sightings increased over the previous mission.

C-Radar Operator Efficiency

The operating efficiency of the radar operator was satisfactory; however, the percentage of performance decreased slightly in comparison with previous missions. Although the number of operators computing ground speeds and drift by radar increased, the percentage decreased. Seventeen (17) operators or sixty-three (63%) per cent identified the initial point at a useable range while the aiming points were identified at a range greater than fifteen (15) nautical miles by fifty-five (55) operators or seventy-seven (77%) per cent. The number of operators using Azimuth Stabilization and Sector Scan increased.

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D - Radar Scope Photography

Photographic results were disappointing for this mission. Seventeen (17) cameras completed the mission with three (3) cameras being installed in aircraft having AN/APQ-13 malfunctions. It should have been possible to obtain at least fourteen (14) sets of pictures; however, only six (6) sets of pictures were returned. Four (4) sets of pictures were useable and no pictures tracing the bombing runs.

E - Radar Serviceability

1. Radar equipment serviceability was satisfactory. All radar systems were reported operational at take-off. Ninety-two (92%) per cent of the AN/APQ-13 radar equipment was operational over the targets. The unrepairable failures increased, however, over the previous mission. Seven (7) AN/APQ-13 systems were totally unrepairable while nine (9) systems were partially unrepairable but operative. Three (3) AN/APQ-13 systems were repairable in flight. All malfunctions have been listed in Table F, Section II.

2. There were no malfunctions of SCR-729 and SCR-695 auxiliary radar equipments.

3. Fighter Control of the forward area reported three (3) aircraft not showing IFF indications on this mission. This IFF report has been the best on any mission to date.

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II - RADAR TABLES

A - RADAR BOMBING DATA

DATA	40th Gp		444th Gp		462nd Gp		468th Gp		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total A/C Bombing	21	-	22	-	9	-	25	-	77	-
A/C Bombing Onura *	2	9.5	9	41	5	57	13	52	29	38
Visual Bombing	1	50	0	0	0	0	0	0	1	3
Radar Bombing	1	50	8	89	4	80	13	100	26	90
Navigators ETA	0	0	1	11	1	20	0	0	2	7
A/C Bombing Shanghai*	2	9.5	2	9	1	11	7	28	12	16
Visual Bombing	2	100	1	50	1	100	4	57	8	67
Radar Bombing	0	0	1	50	0	0	3	43	4	33
A/C Bombing Nanking*	14	67	9	41	1	11	0	0	24	30
Visual Bombing	13	93	9	100	1	100	0	0	23	96
Radar Bombing	1	7	0	0	0	0	0	0	1	4
A/C Bombing T. O. *	3	13	2	9	2	21	5	20	12	16
Visual Bombing	1	33	2	100	2	100	4	80	9	75
Radar Bombing	2	67	0	0	0	0	0	0	2	17
Navigators ETA	0	0	0	0	0	0	1	20	1	8
Total Radar Bombing*	4	19	9	41	4	44	16	64	33	43

* Percentage Based on Total A/C Bombing
Other Percentages Based on A/C Bombing Target

B - Radar Operator Efficiency

DATA	40th Gp		444th Gp		462nd Gp		468th Gp		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
No. Possible Determining G. S. & Drift by Radar	22	-	20	0	12	-	23	-	77	-
No. Determining	15	68	16	80	6	50	13	57	50	65
No. Possible Identifying IP at useable range	2	-	8	-	5	-	12	-	27	-
No. Identifying	0	0	5	63	3	60	9	75	17	63
No. Possible Identifying AP at range greater than 15 miles	21	-	20	-	7	-	23	-	71	-
No. Identifying	16	76	14	70	6	86	19	82	55	77
No. Possible Using Azim. Stab. and Sector Scan	21	-	20	-	9	-	23	-	73	-
No. Using Azim. Stab.	18	86	17	85	8	89	21	91	64	88
No. Using Sector Scan	17	81	16	80	7	78	16	70	56	77

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C - RADAR NAVIGATIONAL RANGES

Name of Check Point	40th Gp		444th Gp		462nd Gp		468th Gp		Total	
	Number Reporting	Average Range	Number Reporting	Average Range	Number Reporting	Average Range	Number Reporting	Average Range	Number Reporting	Average Range Weighted
Mapping	20	42.7	25	45.0	5	42.0	23	36.0	73	41.3
Omura	1	30.0	9	25.0	4	32.5	11	33.0	25	29.9
Shanghai	3	41.7	2	38.0	1	20.0	7	23.6	13	29.7
Nanking	13	26.2	7	36.0	3	34.3	0	0.	23	30.2
Danjo Archipelago (TP)	0	0.	4	28.0	2	40.0	0	0.	6	31.3
Oujima Island (IP)	0	0.	9	24.0	3	28.3	10	30.4	22	27.5
Baoying Lake	1	35.0	2	20.0	0	0.	0	0.	3	25.0
Chao Lake	0	0.	3	31.0	0	0.	0	0.	3	31.0
China Coast	10	30.5	16	36.0	4	20.0	16	34.0	46	32.7
Chinkiang	0	0.	2	36.0	0	0.	0	0.	2	36.0
Fow Ho River	3	19.3	2	14.0	1	18.0	1	20.0	7	17.7
Goto Archipelago	0	0.	3	33.0	0	0.	0	0.	3	33.0
Han River	11	22.9	10	27.0	3	18.3	4	23.0	28	23.9
Hungtze Lake	17	31.7	20	34.0	3	28.3	14	25.0	54	33.2
Kayou Lake	2	45.0	4	35.0	0	0.	0	0.	6	38.3
Kialing Ho River	5	19.5	8	21.0	2	19.0	3	21.0	18	20.4
Saishu Island	4	37.5	10	38.0	4	35.0	3	32.5	21	36.5
Siangyang	1	20.0	2	29.0	0	0.	0	0.	3	26.0
Tung Lake	0	0.	2	30.0	0	0.	0	0.	2	30.0
Yanhsien	0	0.	2	22.0	0	0.	0	0.	2	22.0
Yangtze River	7	34.3	10	27.0	1	30.0	5	26.6	23	29.3
Total Reports	98	--	152	--	36	--	97	--	383	--
Average Number Reports	--	--	--	--	--	--	--	--	95	--

NOTE: Ranges reported are ranges of radar pickup in nautical miles.

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D - Photographic Results

DATA	40th Gp		444th Gp		462nd Gp		468th Gp		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
No. Cameras Installed	8	-	5	-	2	-	5	-	20	-
C-3 Cameras	0	-	2	-	1	-	1	-	4	-
K-35 Cameras	1	-	2	-	0	-	2	-	5	-
K-24 Cameras	6	-	1	-	0	-	1	-	8	-
H2X Cameras	1	-	0	-	1	-	1	-	3	-
No. Cameras in Abort, Early Return & Miss- ing A/C *	0	0	1	20	0	0	2	40	3	15
No. Cameras Com- pleting Mission *	8	100	4	80	2	100	3	60	17	85
No. Cameras in Radar Malfunction A/C #	0	0	1	25	0	0	2	67	3	18
Sets of Pic. Return#	2	25	4a	100	0	0	0	0	6	35
Sets of Pic. Useable#	1	13	3	75	0	0	0	0	4	24
Sets Tracing Bomb Run#	0	0	0	0	0	0	0	0	0	0

* Percentage Based on Cameras Installed
 # Percentage Based on Cameras Completing Mission
 a-A/C #580 (444th) returned one set of pictures before AN/APQ-13 malfunctioned.

E - Radar Serviceability

DATA	40th Gp		444th Gp		462nd Gp		468th Gp		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
A/C Airborne	25	-	28	-	16	-	27	-	96	-
AN/APQ-13 Operational at Take-off	25	100	28	100	16	100	27	100	96	100
A/C Bombing *	21	84	22	79	9	56	25	93	77	80
AN/APQ-13 Operative over Target #	19	91	20	91	9	100	23	92	71	92
AN/APQ-13 Unrepair- able Failures #										
Totally Unrepair.	2	9.5	2	9	0	0	3	12	7	9
Partially but Operative	2	9.5	4	18	1	11	2	8	9	12
Total	4	19	6	27	1	11	5	20	16	21
AN/APQ-13 Repaired in Flight	1	-	1	-	1	-	0	-	3	-
SCR-729 Failures	0	0	0	0	0	0	0	0	0	0
SCR-695 Failures	0	0	0	0	0	0	0	0	0	0

* Percentage based on A/C Airborne
 # Percentage based on A/C Bombing

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F - RADAR MALFUNCTIONS

DATA	40th Gp	444th Gp	462nd Gp	468th Gp	Total
/C Airborne	25	28	16	27	96
Malfunction at Take-off	0	0	0	0	0
Malfunctions between take-off & target (Unrepairable)					
Pressurization (Totally)	1	0	0	0	1
Pressurization (Partial)	1	0	1	1	3
Modulator (Totally)	1	0	0	0	1
Transmitter (Totally)	0	1	0	0	1
Indicator (Totally)	0	1	0	0	1
No Tx Current (Totally)	0	0	0	1	1
No Sweep (Totally)	0	0	0	1	1
Sector Scan (Partial)	1	0	0	0	1
Azimuth Stab. (Partial)	0	2	0	0	2
Indicator (Partial)	0	1	0	1	2
Synchronizer (Partial)	0	1	0	0	1
No. Totally Unrepairable	2	2	0	2	6
No. Partially Unrepairable	2	4	1	2	9
Total	4	6	1	4	15
Malfunctions between Target and Landing (Unrepairable)					
Pressurization (Totally)	0	0	0	1	1
No. Totally Unrepairable	0	0	0	1	1
Malfunctions Repairable in Flight.					
Modulator - 829 Tube	1	0	0	0	1
Inverter	0	1	1	0	2
Total Repairable	1	1	1	0	3

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ANNEX

G

RCM INFORMATION

* Prepared by: *
* * * * *
* RCM Section *
* * * * *
* XX Bomber Command *
* * * * *

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By *SM* NARA Date *11/30/05*

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SECRET
Auth: CG, XX BC
Initials: Y/T
Date: 18 Nov. 44

HEADQUARTERS
XX BOMBER COMMAND
APO 493

18 November 1944

SUBJECT: RCM Report - Combat Mission No. 16 - Omura and Nanking
11 November 1944 - Daylight.

TO : Commanding General, Twentieth Air Force
Washington 25, D. C.

A. General

RCM activities were limited to searching for enemy Early Warning Radar enroute to the target and for Radar Fire Control Equipment over the target. Seven RCM equipped aircraft, each with one RCM Observer, participated in the mission. The frequency assignments are as follows.

<u>Enroute</u>	<u>Target</u>	<u>Area Searched</u>
70-300 Mc.	Enemy Communications	Omura
70-300 Mc.	70-300 Mc.	Omura
70-300 Mc.	300-1000 Mc.	Omura
40-300 Mc.	70-300 Mc.	Take off to Shanghai
70-300 Mc.	300-1000 Mc.	Take off to Saishu Area
70-300 Mc.	Enemy Communications	Take off to Saishu Area
70-300 Mc.	70-300 Mc.	Take off to China Coast

B. Results

1. There were no D/F equipped aircraft on this mission, but many of the Japanese Early Warning sites previously D/F'ed by this Command, were confirmed by the RCM Observers when in the vicinity of the Radar sites.

2. The first intercepts were the Japanese Army Early Warning "CHI" type sites located at Shasi, Wuchang, and Yochow. the "CHI" type site at Chow Kiakow was probably intercepted from the longitude of 115°40' E to the longitude of 116°22' E. The Nanking and the Kaoshun "CHI" type sites were in operation and tracked our aircraft from the longitude of 118° to the China Coast. On the China Coast, in the Shanghai Area, two definite Mk 1 Model 3 type radar sites were intercepted. Saishu Island was quite active and possibly some of the "CHI" sites, Mk 1 Model 1 sites, Mk 1 Model 2 sites and

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By SM NARA Date 11/3/05

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Mk 1 Model 3 sites intercepted in this area, may have originated from the convoy to the South West of Saishu Island. Several Mk 1 Model 1 type radar signals were intercepted in the Danjo and Goto Archipelago Group. Radar intercepts over the target were unsatisfactory due to the frequency coverage and the severe electrical storm in that area. A peculiar signal at 82 Mc, 25-30 Usec and 2000 PPS pulse repetition frequency was intercepted in the target area.

C. Resume of Signal Intercepts

Attached.

D. Ground Monitor Intercepts

No signals of enemy origin were intercepted.

E. Enemy Countermeasures

1. Two air crew radio operators reported keyed CW interference on the secondary air-ground frequency. Maximum signal strength of the interfering signal was reported between 100 and 400 miles from the base, both on outgoing and returning flights.

2. A jamming signal on the primary air-ground frequency was reported by one of the ground station operators and analyzed by the Group RCM Officer. The characteristics of the signals are as follows: MCW; Tone, 60-100 CPS; 20 Kc Bandwidth; unintelligible Morse Code characters. The jamming signal is fairly strong, but not too strong, in general, to read through. The jamming signal has been in operation for several months, especially during heavy traffic and missions.

F. Equipment

1. O-10/APA-6X Oscillator: Failed immediately after take off. Open lead on the coupling condenser to the last stage.

2. AN/APA-6 Pulse Analyzer: Horizontal deflection circuit failed after $4\frac{1}{2}$ hours operation. Low voltage rectifier filament burned out

3. PE-218p Inverter: Irregular output. Possibly due to a faulty carbon pile.

For The Commanding General:

Leo I. Herman

LEO I. HERMAN
Colonel, Air Corps
Actg. Adjutant General

1 Incl:
List of Intercepts.

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Incl: 1

C. *RESUME OF INTERCEPTS

<u>CHARACTERISTICS</u>		<u>LOCATION</u>
45.5/1150 - Tone Only	(new)	Possible navigation aid Intercept 3212-12634
56/940 - Tone	(new)	Possible navigation aid on Danjo Archipelago Intercept 3207-12721
66.5/515/36	(confirm)	Shasi Radar (3023-11220)
71/515/40	(confirm)	Nanking Radar (3202-11847)
71.6/500/41.5	(confirm)	Yochow Radar (2922-11307)
72/500/32-40	(new)	Saishu Area intercepts 33°N - 125° to 128°
73/510/44	(confirm)	Chow Kiakow (3345-11445)
74/500/30	(new)	Haichow Area (approx. 3450-11915)
75/520/32	(confirm)	Kaoshun Radar (3127-11850)
76/510/33	(confirm)	Wuchang Radar (3032-11415)
76-77/500/28-36	(confirm)	North Coast of Saishu Is. (3330-12620)
79/510/28	(confirm)	Oujima Island (3234-12854)
<p>B-29 reconnaissance mission on 21 August detected a station with the characteristics 79/500/40 at this location. First confirmation of Oujima radar frequency.</p>		
82/2000/25-30	(new)	Possibly on Danjo Archipelago or Oujima Intercept 3203-1280
94/740/14-18	(new)	Saishu Island Area (125° to 127°)
95/760/24	(new)	Possibly on Mechima or Oujima Intercepts 3300-12745 to 3226-12847
96/760/35-60	(new)	Saishu island Area
99-100/730/24-34	(new)	Saishu Island Area Active-tracked aircraft

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146/1050/9.6	(new)	Shanghai Area 3200-12130
155/550/6	(new)	Along coast North of Shanghai from 32 ⁰ to 34 ⁰ N
161/520/6	(new)	Saishu Island Area Several other Mk 1, Model 3, suspected in this area
192,194/1150/9-10	(new)	Possible shipborne airwarning Intercepts 3220-12415
197/1250/3.5	(new)	Convoy at 32 ⁰ 50N-126 ⁰ 10E

Meager and inaccurate to accurate anti-aircraft fire experienced simultaneously with reception of this signal. Two different groups intercepted the signal at the time convoy was sighted. Continuous pointed fire is believed to have been used, and no enemy aircraft were reported on the same course and altitude.

200/810/ ?	(new)	Believed to be shipborne air warning intercept 3225- 12630
204/1450/12	(new)	North of Haichow 3500-11900

*If an intercept constitutes a confirmation of previously located station, it is so indicated by confirm in parenthesis after the characteristics. Coordinates given for the confirmed signals are the actual location obtained by d/f 'ing on previous missions.

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By *SM* NARA Date *11/30/05*

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ANNEX

H

CENTRAL STATION FIRE CONTROL AND GUNNERY

* * * * *
* Prepared by: *
* Staff Gunnery Officer *
* XX Bomber Command *
* * * * *

S E C R E T

SECRET
HEADQUARTERS
XX BOMBER COMMAND
APC 493

SECRET
Auth: CG XX BC
Date: 15 Nov 44
Initials F-13

CONSOLIDATED
SPECIALIST MISSION
REPORT OF
STAFF GUNNERY OFFICER

Field Order No.: 16

Date Prepared: 15 November 1944

Date of Mission: 11 November 44

1. On the mission directed by Field Orders No. 16, the gunners report an increase in number of coordinated attacks by enemy fighters. One crew was attacked by six enemy aircraft from two o'clock high with the fighters flying single file, fifty yards apart, and pressing their attack to approximately one hundred fifty feet. The fact that our planes were not in large formations, probably accounts for this increased aggressiveness of enemy fighters, as the crews reporting these aggressive attacks were flying either alone or in a two plane formation. The Jap pilots are resorting to their old trick of one airplane doing acrobatics to attract attention while other planes attempt to make a coordinated sneak attack. Our gunners should never be fooled by these tactics because enemy acrobatics are obviously an attempt to draw the attention of our gunners away from some particular part of the hemisphere.

2. The mission is considered as very satisfactory in regards to gunnery. There were no losses and only two of our airplanes were damaged by enemy fighters.

3. The following statistical data is submitted:

	<u>40th</u>	<u>444th</u>	<u>462nd</u>	<u>468th</u>
Ammunition used test firing	2000	2350	5230	2200
Ammunition used in combat	3460	5010	945	1355
Malfunctions of C.F.C. System	2	7	2	2
Total turrets on mission	115	120	70	125
Malfunctions of Cal. .50 M.G.	2	2	2	3
Total Cal. .50 M.G. on mission	230	240	140	250
Total airplanes (basis for report)	23	24	14	25

Total percent malfunctions all Groups C.F.C. $3\frac{2}{3}\%$ cal. .50 M.G. $1\frac{1}{3}\%$
Claims by our gunners: Destroyed 2 Probably destroyed 2 Damaged 12

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4. In conclusion, it is interesting to note that this mission marked the first use of an improved procedure for defense against frontal attacks. The Group which used this procedure which was recommended by Mr. Green, Operations Analysis Section, 20th Air Force, reports that their increase of claims on this mission can be attributed to that new method. All Group gunnery officers will be given details of this new procedure at the gunnery meeting after critique so each crew gunner may be given instructions prior to the next mission. Briefly, the procedure is as follows: By presetting the computer for 1000 yards in the conventional manner, when the enemy airplane fills the reticle at this range, immediately turn the rangewheel to 250 yards and start firing, keeping the center dot on the nose of the fighter. The time of closure of the airplanes is approximately equal to the time of range angle for the computer which makes ranging automatic by this method.

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By *SM* NARA Date *11/3/05*

S E C R E T

ANNEX

I

CAMERAS AND PHOTOGRAPHS

I - Cameras and Photographs

II - Photo Reconnaissance

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By *SM* NARA Date *11/30/05*

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I - CAMERAS AND PHOTOGRAPHS

Mission No. 16

11 November 1944

A. 40th Group

	K-18	K-20	K-22	Total
No. cameras installed	5	19	8	32
No. in aborting A/C	0	*	1	1**
No. completing mission	5	*	7	12**
No. photographing targets	4	*	7	11**
No. usable negatives	43	*	85	128**

* Not available.
** Incomplete

B. 444th Group

	K-18	K-20	K-22	Total
No. cameras installed	6	7	4	17
No. in aborting A/C	2	1	2	5
No. completing mission	4	6	2	12
No. photographing targets	4	0	2	6
No. usable negatives	50-a	0-b	5-c	55

a. None of Primary target due to 10/10 undercast.
b. Photos were of non-military value.
c. Number limited by improper operation of intervalometer.

C. 462nd Group

	K-18	K-20	K-22	Total
No. cameras installed	7	5	7	19
No. in aborting A/C	2	1	2	5
No. completing mission	5	4	5	14
No. photographing targets	2	1	0-a	3
No. usable negatives	15-a	4-a	0-a	19

a. Limited by 10/10 undercast over all targets.

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D. 468th Group

	K-18	K-20	K-22	Total
No. cameras installed	6	11	6	23
No. in aborting A/C	1	*	1	2**
No. completing mission	5	*	5	10**
No. photographing targets	0-a	*	3	3**
No. usable negatives	0-a	*	77	77**

a. Undercast over target.
* Not available.
** Incomplete

E. Totals

	K-18	K-20	K-22	Total
No. cameras installed	24	42	25	91
No. in aborting A/C	5	2**	6	13**
No. completing mission	19	10**	19	48**
No. photographing targets	10	1**	12	23**-a
No. usable negatives	108	4**	167	279**-a

** Incomplete.
a. Limited by unfavorable weather conditions over all targets.
Note: For information concerning radar cameras see Radar Information, Annex F.

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By SM NARA Date 11/30/05