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MISSION #27 SINGAPORE "PELICAN 2"  
11 January 1945

2-5239-57

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# XX Bomber Command



HEADQUARTERS TWENTIETH AIR FORCE	
Chief of Staff	
Deputy C. of S. Adm.	
Deputy C. of S. Opr.	
A. G.	

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## Tactical Mission Report

No. 27

DATE 11 JANUARY 1945

GENERAL H.H. ARNOLD

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TWENTIETH AIR FORCE  
Office of The Deputy Commander, IB and C  
APO 493

TACTICAL MISSION

REPORT

Field Orders No. 27

Mission No. 27

TARGETS: Floating Drydock, Singapore  
Kings Drydock, Singapore

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Prepared by:

Intelligence Section  
XX Bomber Command

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\* 2 February 1945 \*  
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TWENTIETH AIR FORCE  
Office of The Deputy Commander, IB and C  
AFO 493

2 February 1945

SUBJECT: Report of Operations, 11 January 1945

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

1. UNITS PARTICIPATING: The four Bombardment Groups of the XX Bomber Command were directed by Field Orders Number 27 to participate in a medium-size daylight strike on D-day against drydock targets in the Singapore Area, Malaya. Groups, their locations, and their Commanding Officers were as follows:

<u>Group</u>	<u>Base</u>	<u>Commanding Officer</u>
40th	Chakulia	Colonel W.H. Blanchard
444th	Dudhkundi	Colonel A.L. Harvey
462nd	Piardoba	Colonel A.F. Kalberer
468th	Kharagpur	Colonel J.V. Edmundson

2. IDENTIFICATION OF MISSION:

a. Attack No. 27.

b. Targets Specified:

- (1) Primary Target "A" - Floating Drydock, North Wharf Area, Singapore Naval Base, Singapore, Malaya (Objective Folder 92.2-22 and AAF Target Chart No. 92.2-17)
- (2) Primary Target "B" - Kings Drydock, Singapore Harbor Board Area, Singapore, Malaya (Objective Folder No. 92.2-10 and AAF Target Chart No. 92.2-52).
- (3) Secondary Target: Swettenham and Victoria Piers, Georgetown, Penang (AAF Target No. 92.1-27).
- (4) Last Resort Target: Mergui Harbor, Burma (XX Bomber Command Target No. 82.2B).

3. STRATEGY AND PLAN OF OPERATIONS:

a. Importance of Targets:

(1) Primary Target "A": This floating drydock is the second largest drydock unit at Singapore and can accommodate the largest battleship afloat. Although it is shorter than the Kings Drydock at the commercial harbor, its width gives it a greater capacity in terms of tonnage. Since the 1000-foot graving dock was put out of commission by the XX Bomber Command attack of 5 November (XX Bomber Command Tactical Mission Report No. 15), the floating drydock is now the most important unit at Singapore and is equipped, in conjunction with the Naval Base shops, to accomplish any type of repairs.

(2) Primary Target "B": The Kings Drydock, the third largest in Singapore, is exceeded in capacity only by the huge graving dock and the 50,000

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ton floating drydock at the Naval Base. It is capable of accomodating vessels of great size. Since the XX Bomber Command strike of 5 November against the Naval Base Drydock, this dock is now the second most important at Singapore and possesses 26 per cent of the remaining drydock footage. A steam-powered pumping station lies directly west of the dock which is also equipped with its own cranes, capstans, electrical, and water connections. In conjunction with the Harbor Board Workshops, it is possible to carry on major repairs to vessels in this drydock.

(3) Secondary Target: Penang is Malaya's second largest harbor and is currently a submarine base. Numerous newly constructed warehouses of considerable size to the northwest of the target area suggest that Penang is also a storage and trans-shipment point for goods moving by coastal vessels between Malaya and Burma and by rail on the Singapore to Bangkok line.

(4) Last Resort Target: Mergui is the northernmost Burman harbor now normally used by the enemy for ocean going ships and is undoubtedly the chief port of entry for military supplies in Burma. In recent months as many as 18 vessels of from 1000 to 2500 gross tons have been observed at Mergui at one time. Port facilities are meager but there are a number of warehouses for the storage of supplies.

b. Details of Planning (See Annex N):

(1) Operational Planning:

(a) Although the largest drydock at Singapore had been put out of commission by the XX Bomber Command 5 November strike, repair facilities were still available for large naval craft including battleships. In order to prevent the enemy from using these facilities, this mission was planned and was originally scheduled for 19 November. Unfavorable weather caused its postponement. On 30 November it was again scheduled but the continuation of unfavorable weather caused a second postponement. During December, the weather did not improve, which combined with the Command's Pac Aid and China emergency sorties, resulted in the postponing of this mission until January. On 9 January the weather forecast was favorable. This sudden break in the weather plus the discovery by photo reconnaissance of a large amount of shipping in the area resulted in the decision to run the mission on 11 January. Because of other future commitments, the size of the effort was set at 12 aircraft airborne from each Group instead of a minimum of 15 as on the first Singapore strike.

(b) The operational plan for this mission was the same as the first except for the exceptions as noted in the following paragraphs.

(c) Bombing altitudes were raised 3000 feet to 23,000 and 24,000 feet as a result of the fact that the presence of numerous warships in the Johore Strait indicated heavy antiaircraft opposition.

(d) No minimum bomb load was specified because the minimum load that could be specified with safety was one bomb and because the Groups had indicated that competition for large bomb loads had been adequately regulated among them.

(e) The route out was moved to the eastern side of the Malay Peninsula in order to take advantage of the Navy's air-sea rescue facilities, better weather, and the closing of the western side to transient aircraft.



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(f) A second primary target was designated on this same axis of approach due to the fact that the floating drydock might not be visible if there were haze or if it were submerged by the enemy or our own demolitions. This second target was also a good one from a radar standpoint.

(g) The shipping in the harbor was not designated as a target because of the possibility of its being moved, the greater relative importance of repair facilities, and the greater destructive power of the bombs selected for use against the drydock over the armored bombs that would have had to be used against naval craft.

(2) Determination of Bomb Load:

(a) The field orders prescribed that each group was to furnish 12 fully modified aircraft airborne. Each aircraft was to be loaded with 1000-pound general-purpose (TNT or Amatol filled) bombs, fused .1 second nose and .025 seconds tail delay.

(b) In view of the unpredictable situation that might be encountered in the target area, Operations Analysis Section considered the selected bomb and fusing the most appropriate for an attack against the floating drydock. If, as when last photographed, the dock contained a vessel under repair, a direct hit would detonate within the hold of the vessel with a possible result that the vessel would be capsized and the dock rendered temporarily inoperable. Similarly a direct hit on the unoccupied portion of the dry dock would affect its buoyancy as well as the stability and balance of the ship under repair. While a certain amount of hydraulic ramming effect would be expected from near misses, this would be minimized since the bombs with an .025 second functioning tail fuse would result in an underwater detonation some 60-70 feet below the surface. If the dry dock were floating but unoccupied at the time of the attack, it was estimated that direct hits with this fusing would sink the floating dry dock since detonation of the bombs would be initiated either within or just below the top surface of the dock. Similarly if the dry dock at the time of attack were submerged and either unoccupied, or occupied by a vessel in the process of being raised or lowered, it could reasonably be expected that direct hits would result in serious damage if not the destruction of the installation. Regarding the incidental destruction that might be inflicted by bombs which were "over", this bomb and fusing would be effective against naval or merchant shipping tied up alongside the pier as well as against major repair and storage installations at the naval base.

(3) Bombing Data:

(a) Bombing was to be by 3-plane formations from the prescribed bombing altitudes of 23,000 feet for the 40th and 462nd Groups and of 24,000 feet for the 444th and 468th. The aiming point established was the center of the 50,000-ton capacity floating drydock. If this target were not visible, aircraft were to continue on course and bomb Kings Drydock visually, blind, or by radar with the visual aiming point established as the center of the steam pump house on the southwest side of the entrance to the dock and the radar aiming point as the center of the shoreline edge of the signal return from the target. Axis of attack was prescribed at 183 degrees magnetic.

(b) The aiming points for the secondary target were as follows: visual - Government House; radar - northwest tip of Island, shoreline edge. For the last resort target they were: visual - center of main jetty; radar - shoreline edge of target.



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(4) Other provisions:

(a) Assigned bombing altitudes were to be reached prior to reaching the assembly point.

(b) Aircraft were to circle at the assembly point not more than once in order to join a formation and then proceed on course to the target individually, if necessary.

(c) If a high overcast were encountered, bombing was to be attempted visually on the floating drydock but in no case below 19,000 feet pressure altitude.

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

a. Take-off:

(1) Take-off times were not specified. Instead, the Groups were given a time over the target of 110220Z.

(2) Take-off was accomplished on D-day minus as follows:

<u>Group</u>	<u>A/C Airborne</u>	<u>First A/C Off</u>	<u>Last A/C Off</u>
40th	10	1731Z	1754Z
444th	12	1709Z	1733Z
462nd	12	1715Z	1737Z
468th	13	1746Z	1810Z
Total	47	1709Z	1810Z

(3) Weather at take-off was clear at all bases with visibility ranging from 6 to 10 miles.

b. Route Out:

(1) The route out was from base to Preparis Island to Tenggol Island to the assembly point at Sribuat Island to the initial point on the coastline at 02° 22' N - 103° 53' E to the target at Singapore.

(2) Twenty aircraft deviated from the briefed route to the primary target. Of these, 8 bombed the secondary target, 3 bombed the last resort target, 3 bombed targets of opportunity, 2 jettisoned their bombs, 3 brought their bombs back and 1 is missing.

c. Primary Target:

(1) Of the 47 aircraft airborne, 16 bombed the floating drydock (56 demolition bombs or 28.5 tons) and 9 bombed the Kings Drydock (35 demolition bombs or 17.9 tons). Aircraft were over the floating drydock area from 0150Z to 0215Z and over the Kings Drydock area from 0157Z to 0224Z. Bombing altitudes over all varied from 18,100 feet to 26,000 feet and there was a great deal of variance in the axes of attack. All aircraft bombed singly with the exception of one formation of 3 aircraft and one of 2.

(2) Since bombing was accomplished for the most part singly, the fighter attacks directed against some planes may have contributed to bombing inaccuracy.



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(3) Icing conditions were severe for some aircraft and bombardier reported that icing on the nose glass made visibility forward practically nil.

(4) Weather at the primary targets was as follows: 10/10 cirrostratus at 24,000 feet; 3 to 4/10 cumulus or stratocumulus at 3000 feet with tops at 6 to 8000 feet; visibility 10 miles or better. Conditions varied rapidly at the target area, due probably to rapidly drifting lower clouds.

d. Secondary Target:

(1) The Georgetown target was attacked by 9 single aircraft, the first at 0032Z and the last at 0341Z. In all, 35 demolition bombs were dropped on this target - a total weight of 35679 pounds or 17.84 short tons. Bombing altitudes ranged from 15,000 to 24,000 feet and a different axis of attack was used by each aircraft.

(2) Observed results of bombing were as follows: 40th Group - a pattern of impacts was observed in the buildings 400 to 500 feet west of the aiming point and a large column of light brown smoke was seen rising to 1000 feet; 462nd Group - two aircraft reported that bombs were seen to fall on or near the aiming point with one falling on the Government House and one aircraft reported unobserved results; and 468th Group - five aircraft bombed reporting as follows: "Saw bombs fall approximately 400 feet short," "3 bombs were seen to hit just short of the tip of the target with a fourth hitting in the storage area," "believed hits made in dock area," "hits made just west of the brick aiming point," and "hits of 2 bombs were seen on the third of 3 red rock buildings in the target area and the third bomb fell in the water short of the docks.

(3) Weather at the secondary target was clear with visibility 30 miles.

a. Last Resort Target:

(1) Four single aircraft bombed the Mergui target, the first at 2334Z and the last at 0630Z. Fifteen bombs (15291 pounds or 7.64 short tons) were dropped on different headings and from altitudes ranging from 10,000 to 24,000 feet.

(2) Observed results of bombing were as follows: 40th Group - 2 aircraft from this Group bombed with one observing a pattern approximately 700 feet west of the aiming point in a building area and with the other observing impacts near the northernmost jetty on the water front; 444th Group - 1 aircraft bombed with the bombs seen to fall in the water approximately 100 yards west of the aiming point; and 462nd Group - 1 aircraft bombed with bombs seen to fall in the warehouse area.

f. Targets of Opportunity:

(1) Aircraft 378 of the 444th Group attacked an airdrome at 12°30'N - 98°35'E at 0016Z from 15,000 feet. Three demolition bombs were dropped with 2 falling on the runway of the airfield and the third falling approximately 300 feet from the runway.

(2) Aircraft 469 of the 468th Group bombed the railroad tracks at 05°15'N - 102°03'E at 0148Z from 23,000 feet. Four demolition bombs were dropped and one bomb was seen falling on the tracks.



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(3) Aircraft 691 of the 468th Group bombed the oil storage area on the mainland directly east of Georgetown at 0312Z from 17,060 feet. Three bombs were dropped with observed results reported as good.

g. Route Back:

(1) Route back from Singapore was direct.

(2) On the return route, 6 aircraft deviated from the planned route to base. Three aircraft landed at bases other than XX Bomber Command bases: one aircraft proceeded from the primary target to the secondary target to the last resort target, which it bombed, and then landed at Cox's Bazaar; one aircraft dropped one bomb on the primary target and then proceeded to the secondary target, where it dropped 3 bombs; and one aircraft was last heard from over the target at "bombs away" and is carried as missing.

(3) Weather on return was generally clear with some high scattered altocumulus. Visibility ranged from 6 to 12 miles.

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

a. Meager to moderate and inaccurate to accurate heavy anti-aircraft fire was encountered over the area of the Floating Drydock from 0150Z to 0215Z at altitudes varying from 19,000 to 24,000 feet through a 3/10 to 6/10 undercast. It appears that the enemy used both barrage and continuously pointed types, the number of bursts at one instant varying from 5 to 25 and the total for each encounter varying from 10 to 150. At no time was enemy aircraft reported on parallel course at the same altitude. In addition to black heavy anti-aircraft fire reported by all aircraft, several planes reported white and phosphorous fire. Evasive action was employed immediately after bomb release and consisted of a series of turns from right to left and the loss of from 500 to 2000 feet while still in the target area.

b. Meager and inaccurate heavy anti-aircraft fire was encountered by all aircraft over the Kings Drydock area between 0203Z and 0225Z at altitudes varying from 18,000 to 23,000 feet through a 6/10 to 9/10 undercast. No enemy aircraft were observed on the same course and altitude. It is believed that continuously pointed fire was used, the number of bursts at one instant varying from 1 to 7 and the total reported for each encounter varying from 6 to 50. All aircraft observed black bursts, 4 saw white bursts, and 2 reported phosphorous anti-aircraft.

c. Heavy anti-aircraft fire was also encountered at Mergui, (meager to moderate and inaccurate) at Malacca, (accuracy and intensity not observed) at 05°33'N - 100°20'E 5 miles north of Georgetown (meager and inaccurate), at Sabang (meager and inaccurate), at Georgetown (meager and accurate) and at the Penang South Air-drome (meager and inaccurate).

d. High altitude balloons were observed at the south end of Singapore Island and in the Singapore Naval Base Area.

e. Ineffective smoke screens were identified on strike photos and reported by combat crews at Singapore and the Naval Base Area.



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6. ENEMY AIR OPPOSITION (See Annex C):

a. Opposition was weak with 25 of 47 airborne B-29's being attacked by an estimated 40-50 enemy fighters consisting chiefly of OSCARS, ZEKES and TOJOS. The enemy force waged 99 single and coordinated attacks, resulting in 145 individual encounters.

b. Two B-29's were lost and it is possible, although not definite, that either or both losses were due to enemy air action. Six B-29's were damaged by fighter attacks.

c. All encounters took place in the primary and secondary target areas, during a 1 hour and 23 minute period, at altitudes of 18,000 to 25,000 feet. There were no encounters on the routes to and from the targets. Thirty seven per cent of the encounters occurred before bombing, 6 per cent during bombing, and 57 per cent after bombs had been dropped.

d. Frontal attacks predominated with 38 per cent originating from this quarter; 29 per cent came from the right side, 17 per cent from the rear, and 16 per cent from the left side. Forty-seven per cent of all approaches were high, 28 per cent level, and 25 per cent low. Of the attacks against the front quarter, high approaches predominated with 51 per cent of the total.

e. Enemy pilots opened fire in 61 per cent of the encounters, and B-29's in 91 per cent of the encounters. These percentages compare closely to those of other recent missions.

f. Attacks were not as aggressive as in the case of recent missions against KYUSHU and MANCHURIA targets, but were characterized by a fairly high degree of flying skill, particularly as pertains to coordinated attacks. Forty-five per cent of total encounters were coordinated, an unusually high percentage, and many were well timed and skillfully executed.

g. Eighteen aerial bombing attacks were reported, plus an indefinite number by 1 B-29 crew; all bombs were of the phosphorous type, and were released while in level flight by dive bombing and by "flipping" during sharp turns.

h. There were no ramming attacks or collisions.

i. Most of the attacks were made against single B-29's, but 21 per cent of total encounters were made against B-29 formations composed of 3 aircraft each. Three of these encounters were waged against the No. 1 (lead) plane, 16 against the No. 2 (right) plane and 12 against the No. 3 (left) plane. Thus, the wing planes of the 3 plane formations received 90 per cent of the enemy effort.

7. WEATHER (See Annex D):

a. The weather was satisfactory for formation flying except in the area from 04 degrees north to approximately 40 miles from the target.

b. The zone of convergence and the attendant cumulonimbus at approximately 04 degrees north broke up some formations and forced some planes to bomb the secondary target.

c. The rapidly drifting cumulus or stratocumulus over the target area prevented some planes from bombing visually.



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d. The metro winds were rated generally as good.

8. COMMUNICATIONS (See Annex E):

a. Although communications were generally satisfactory, the long distance flown tended to decrease signal strengths and readabilities below those normally encountered. Contact was established and maintained, however throughout the mission.

b. Compliance with the communications provisions of the Command's Tactical Doctrine was excellent despite an increase in the volume of traffic resulting from the great number of aircraft flying singly.

c. Radio homing beacons were used by a large number of aircraft with extreme initial contact as far out as 600 miles. Radio ranges were used by a smaller number with extreme initial contact of 620 miles. Six requests for D/F aid were made with 3 Class I and 3 Class II bearings resulting. No air-to-air homing was used on this mission.

9. RADAR (See Annex F):

a. Radar equipment provided a great deal of help in both navigation and bombing on this mission. A total of 9 aircraft bombed by radar, 8 of which bombed Kings Drydock and 1 the floating drydock.

b. Some difficulty was encountered in obtaining good radar scope photographs.

c. Equipment malfunctions were of the usual type.

10. RCM (See Annex G):

a. Six RCM search aircraft participated in this mission and made a search for enemy radar en route to and from the target and in the target area. Only 1 RCM aircraft reached the primary target, the others bombing the secondary target and targets of opportunity.

b. Navigational difficulties nullified the results obtained by the one aircraft equipped with a D/F antenna.

c. Intercepts were made in the Andaman Island area, in the Mergui area, on the Malay Peninsula, in the Singapore area, and in the Rangoon area.

d. Strong atmospheric interference was encountered during a major portion of the mission. There was also occasional interference in the form of "Q" signals and "PX" messages from AACS stations. No intentional interference was reported.

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

a. The mission is considered highly satisfactory in regard to gunnery with 24 claims in all of enemy aircraft destroyed, probably destroyed, or damaged.

b. There were 3 malfunctions of CSFC equipment and 7 malfunctions of 50-caliber machine guns, 1.5 per cent and 1.7 per cent respectively of the total number of turrets and machine guns.



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c. Rounds of ammunition used numbered 23,406, of which 19,490 were expended in combat and 3916 in test firing.

12. CAMERAS AND PHOTOGRAPHS (See Annex I): On this mission, 3 K-17, 14 K-18, 27 K-20, and 18 K-22 cameras were installed in airborne aircraft, a total of 62 cameras of all types. Of those, 11 were in aircraft failing to bomb any target. Of the remaining 51 cameras, based on incomplete reports, 20 cameras were used to photograph targets with 137 usable negatives resulting.

13. LOSSES AND DAMAGE (See Annexes J and M):

a. Known Battle Losses and Battle Damage: There were no known battle losses resulting from this mission and there was no major battle damage. Minor damage was inflicted upon 6 aircraft by enemy fighters and 1 aircraft was damaged by enemy antiaircraft.

b. Known Operational Losses and Damage: There were no known operational losses on this mission. Operational damage was sustained by 3 aircraft as a result of bombs falling from the racks and damaging the bomb bay doors.

c. Missing Aircraft: Two aircraft are missing from this operation. One aircraft of the 444th Group has not been heard from since it reached the initial point. The other (from the the 468th Group) was last heard from when it gave the "bombs away" signal over the primary target. No definite facts have been established regarding the fate of either of these planes.

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

a. Of the 47 aircraft airborne, only 25 succeeded in bombing the Floating Drydock or the Kings Drydock area. Of the 22 failing to bomb the assigned primaries, however, only 9 failed to do so for mechanical reasons, the majority of which were power plant failures.

b. There were 67 malfunctions of equipment in flight as follows: power plant and accessory section - 12; propellers and governors - 4; oil system - 6; fuel system - 10; electrical system - 8; instruments - 19; and miscellaneous - 8.

c. Over-all averages of fuel consumption for the 3855 - mile flight were as follows: average - 7230 gallons; maximum 7520 gallons; minimum - 7000 gallons. Statistics by Groups were: 40th average - 7325 (maximum - 7500, minimum - 7100); 444th average - 7290 (maximum - 7520, minimum - 7035); 462nd average - 7115 (maximum 7400, minimum - 6900); and 468th average - 7100 (maximum - 7200, minimum - 7000).

15. TARGET DAMAGE ASSESSMENT (See Annex L):

a. Floating Drydock: Post-strike photos obtained on 14 January show the floating drydock intact and undamaged. From strike photos showing bomb impacts, 8 bursts were seen in the vicinity of the drydock, but the nearest bomb was approximately 250 feet away.

b. Kings Drydock: From 2 sets of strike photos showing bomb impact, the following was observed. Four bombs fell in open ground approximately 1000 feet northwest of the drydock near a road intersection. One of the roads was cratered and blast damage may have occurred to several nearby barracks-type buildings. Four bombs from another aircraft fell



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approximately 5.5 miles northwest of the dock causing no damage. The post-strike photos indicate that the drydock is intact and undamaged.

c. Georgetown: Severe damage was inflicted on the Government Building, the northwest inside corner of which was the aiming point. Three large warehouses were partially damaged, one medium-size warehouse was severely damaged, and two medium-size warehouses were partially damaged. Three small sheds were destroyed and one long shed damaged. Sixteen houses and shops were demolished and six other shops severely damaged. Of a total of 336,000 square feet of buildings hit, approximately 68,500 square feet (20 per cent) were completely destroyed, 41,500 square feet (13 per cent) were severely damaged, and 9500 square feet (3 per cent) were slightly damaged.

For the Deputy Commander:

*Leo I. Herman*

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



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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 - Information on Landings

\* Prepared by Staff Navigator

\*\* Page A-IV-1 prepared by Staff Bombardier

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I - INFORMATION ON TAKE-OFFS

Mission No. 27

11 January 1945

Group	First A/C Off	Last A/C Off	Elapsed Time	No. A/C Taking Off	Average Takeoff Interval
40th	190731Z	101754Z	23 min.	10	153 sec.
444th	101709Z	101733Z	24 min.	12	131 sec.
462nd	101715Z	101737Z	22 min.	12	120 sec.
468th	101746Z	101810Z	24 min.	13	120 sec.
Over-all	101709Z	101810Z	61 min.	47	-----

II - DETAILS OF ROUTES

A. Routes Planned

Base	40th	444th	462nd	468th
	Chakulia	Dudhkundi	Piardoba	Kharagpur
1st check point	Preparis Island (14°52'N - 93°40'E)			
2nd check point	Tenggal Island (04°47'N - 103°40'E)			
Assembly Point	Sribuat Island (02°41'N - 103°55'E)			
Initial Point	Coast line at 02°22'N - 103°53'E			
Target	Singapore			
Route Back	Direct			
Base	Chakulia	Dudhkundi	Piardoba	Kharagpur

B. Deviations from Planned Routes

1. 40th Group:

a. A/C 757 decided to turn back at 04°47'N - 103°40'E because all 4 engines were running hot. True course of 255° was flown to 04°00'N - 100°46'E at 20,100 feet and then a true course of 342° to the secondary target, which was bombed. From that point a course of 319° true was flown to 06°32'N - 99°10'E, of 324° true to 13°55'N - 93°00'E, and finally of 326° true to base with a gradual let down.

b. A/C 233 turned off the briefed course at 09°16'N - 99°24'E at 10,000 feet due to an oil leak in #4 engine. A magnetic course of 346° was flown at 19,000 feet to the last resort target, which was bombed. Route back was direct to base with gradual let down.

A- I-1  
A- II-1

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c. A/C 503 turned off the briefed course at 2233Z due to #3 engine failure and proceeded to and bombed the last resort target. Route back to base was direct.

2. 444th Group:

a. A/C 378 turned from the briefed route at 09°00'N - 98°20'E at 2313Z and proceeded direct to 12°25'N - 98°40'E, at which point a target of opportunity was bombed. From the target of opportunity, the route back to base was direct with a gradual let down.

b. A/C 202 turned back at 0146Z over the assembly point at an altitude of 20,000 feet. Jettisoned its bombs, and then flew a direct course to base on an average heading of 322° magnetic.

c. A/C 451 turned from the briefed route at 1955Z at 16°43'N - 92°10'E and returned direct to base on a heading of 320° magnetic and at an altitude of 4000 feet. Bombs were returned.

d. A/C 446 turned back at the assembly point at 0106Z at 24,000 feet. It then proceeded to the last resort target, bombed, and flew direct to base on an average heading of 311° with a gradual let down.

e. A/C 226 was last heard from at the initial point. It is carried as missing.

3. 462nd Group:

a. A/C 502 and 581 flew the briefed route to the primary target and then direct to China Bay.

b. A/C 472 flew the briefed route to the primary target and then by direct route to Akyab for an emergency landing with 2 engines out.

b. A/C 230 flew the briefed route to the primary target, to the secondary target, to the last resort target, which was bombed. It then proceeded direct to Cox's Bazaar for an emergency landing since it was low on fuel.

d. A/C 838, 454 and 463 all turned off the briefed route and proceeded to and bombed the secondary target.

4. 468th Group:

a. A/C 486 flew as briefed to Khota Bara at approximately 0020Z. It went direct to the secondary target on a heading of 230° magnetic at 24,500 feet indicated. Bombs were dropped on the secondary on the second run. Route back was direct.

b. A/C 469 flew as briefed to the assembly point and returned direct to base with #4 engine out. An opportunity target was bombed on the return.

c. A/C 445 flew as briefed to the turning point on the east side of the peninsula at 2351Z. It then flew direct to and bombed the secondary target and returned direct to base.

d. A/C 691 flew as briefed to the Assembly Point at 0123Z. It then flew direct to the secondary target area where an opportunity target was bombed. Return to base was direct.

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e. A/C 464 flew as briefed to 04°48'N - 103°43'E at 0200Z. It then flew direct to and bombed the secondary target and returned direct to base.

f. A/C 714 flew as briefed to Tenggol Island at 0101Z. It then flew direct to and bombed the secondary target and returned direct to base.

g. A/C 487 flew as briefed to the assembly point and then returned direct to base as a result of violent turbulence causing the bombs to break loose and fall through the doors.

h. A/C 546 flew as briefed to the primary target, where it dropped 1 bomb. It then proceeded direct to the secondary target, dropped the remaining 3 bombs, and flew direct to base.

i. A/C 704 sent a "bombs away" message at 0203Z and no further contact was ever made. It is carried as missing.

j. A/C 471 turned back shortly after takeoff as a result of a lost spark plug on #4 engine. Bombs were brought back.

k. A/C 417 turned back and returned direct to base with #1 engine cutting out. Bombs were returned.

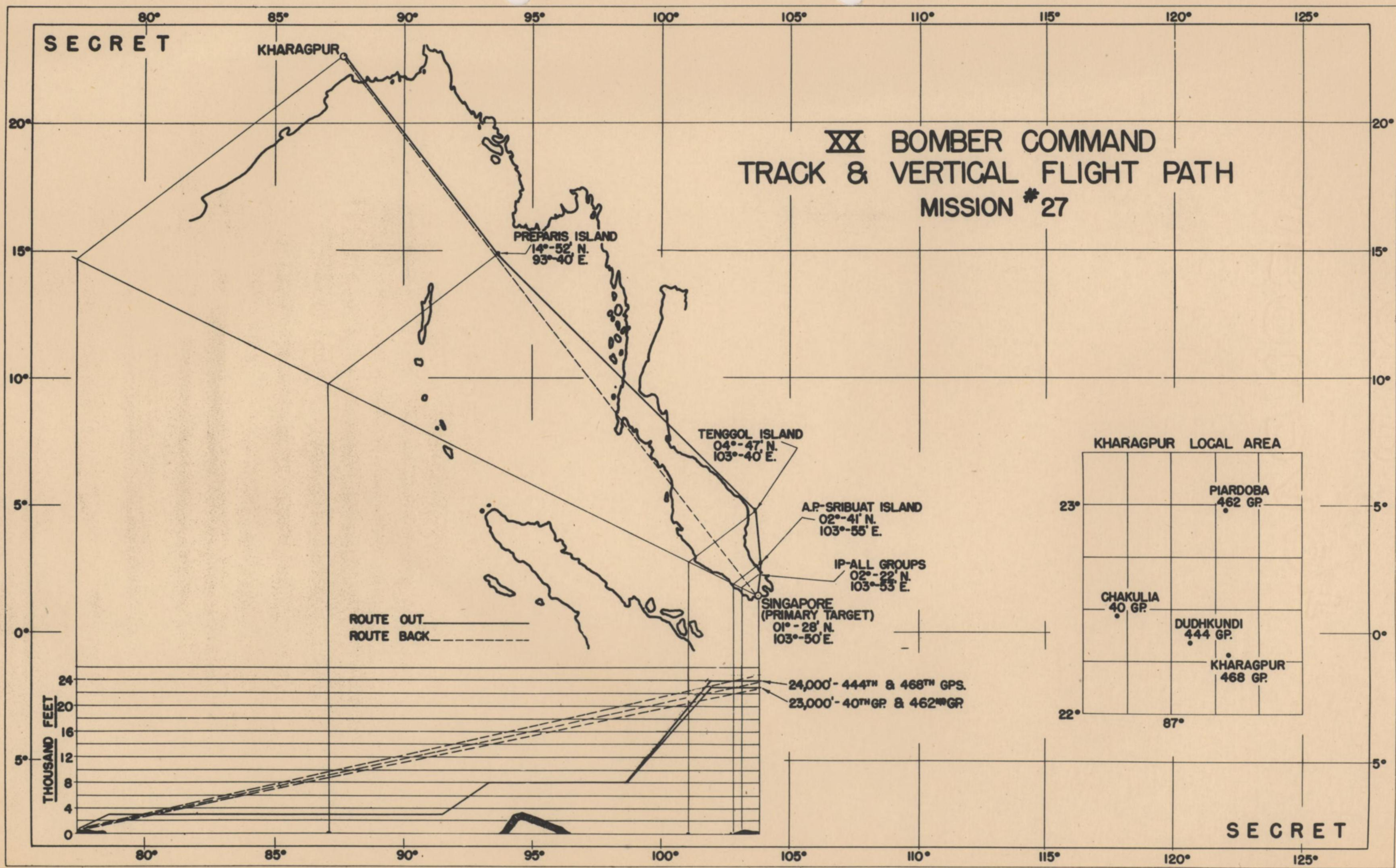
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HEADQUARTERS  
XX BOMBER COMMAND  
APO 493

Secret  
Auth: CG XX BC  
Initials:             
Date: 23 Jan 1945

CONSOLIDATED  
SPECIALIST MISSION REPORT OF  
STAFF BOMBING OFFICER

Date Prepared: 23 January 1945

Field Order: No. 27  
Date of Mission: 11 Jan 45

1. Weather conditions at the primary target were 3 to 10/10's cloud cover. Since bombing was accomplished singly or in formation of 3 the fighter attacks may have contributed to some bombing inaccuracy. Icing conditions were severe for some airplanes, and bombardiers reported that because of ice on the nose glass forward visibility was nil.

2. Malfunctions reported:

40th Group - None  
444th Group - None  
462nd Group -

#540 - When pilot maneuvered airplane violently to avoid ramming attack by a fighter, two bombs with shackles attached were thrown off the rack.  
Cause - Spring catches on rack hooks failed to hold shackles in place.

468th Group -

#546 - 3 bombs hung up.  
Cause - Intervalometer malfunction.

#487 - All bombs (with shackles attached) were thrown off the racks in a violent thunderhead and fell through doors.

Cause - Spring catches on rack hooks failed to hold shackles in place.

#691 - One bomb (with shackle attached) was thrown off rack in extremely rough weather.

Cause - Spring catches on rack hooks failed to hold shackles in place.

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IV - BOMBING DATA (continued)

For times of bomb release, bombing altitudes, axes of attack, and indicated air speeds at all targets, see Section VII - FORMATIONS FLOWN, this Annex, in which details by individual aircraft are given.

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V - BOMB LOADING\*

Mission No. 27

11 January 1945

Bomb Load per A/C	40th		444th		462nd		468th		Total		Ave load pounds
	A/C	GP	A/C	GP	A/C	GP	A/C	GP	A/C	GP	
4	10	40	3	12	12	48	13	52	38	152	4077.6
3	-	-	9	27	-	-	-	-	9	27	3052.2
Total	10	40	12	39	12	48	13	52	47	179	3904.1

\* A/C loaded 1000-pound (actual weight - 1019.4 pounds) GP (TNT or Amatol filled) bombs, fused .1 second nose and .025 second tail.

VI - DISPOSITION OF BOMBS

	40th		444th		462nd		468th		Total		Total Tonnage
	A/C	GP	A/C	GP	A/C	GP	A/C	GP	A/C	GP	
All targets	16	40	8	26	12	46	10	39	40	151	76.9
PT - A*	2	8	4	13	7	26	3	9	16	36	23.5
PT - B**	5	20	2	7	1	4	1	4	9	35	17.9
Secondary Target	1	4	-	-	3	12	4	19b	8	35	17.8
Last resort target	2	8	1	3	1	4	-	-	4	15	7.6
Targets of opportunity	-	-	1	3	-	-	2	7	3	10	5.1
Jettisoned bombs	-	-	2	6	-	2-a	1	5-c	3	13	6.7
Returned bombs	-	-	1	4	-	-	2	8	3	12	6.1
Disposition unknown	-	-	1	3	-	-	-	-	1	3	1.5
Total	10	40	12	39	12	48	13	52	47	179	91.2

\* Floating Drydock, North Wharf Area, Singapore Naval Base.  
 \*\* Kings Drydock, Singapore Harbor Board Area.

- a. A/C 540 dropped 2 bombs on PT-A and jettisoned 2.
- b. A/C 546 dropped 1 bomb on PT-A and 3 on ST.
- c. A/C 691 dropped 3 bombs on opportunity target and jettisoned 1.

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VII - FORMATIONS FLOWN

Mission No. 27  
11 January 1945

A. Formations Planned

1. Bombing was to be accomplished by 3-plane formations from bombing altitudes as follows: 40th and 462nd Groups - 23,000 feet pressure altitude; and 444th and 468th Groups - 24,000 feet pressure altitude. It was further specified that aircraft were to circle at the assembly point no more than once in order to join a formation. If necessary, aircraft failing to join a formation after one circle were to proceed to and bomb the target individually.

B. Formations Over the Targets

1. Only one formation actually bombed in the prescribed formation. There was also one 2-plane formation over the primary target. All other aircraft bombed singly. Instrument conditions at the assembly point in some cases prevented the planned assembly from being carried out. Other aircraft, after circling once and failing to join a formation, proceeded singly as briefed.

2. The diagrams below are intended to indicate relative position only. "W" represents an aircraft of the 40th Group, "X" the 444th Group, "Y" the 462nd Group, and "Z" the 468th Group.

<u>Formation</u>	<u>Time</u>	<u>Heading</u>	<u>Altitude</u>	<u>IAS</u>	<u>#1000-pound bombs</u>
1. Over Floating Drydock (PT-A)					
a. Y (801)	0150Z	180	23000	200	4
Y (475)	0150Z	180	21000	200	4
-----					
b. Y (800)	0152Z	190	22000	195	4
-----					
c. Y (540)	0154Z	183	20000	200	2*
*jettisoned remaining 2					
-----					
d. Z (734)	0154Z	179	23000	195	4
-----					
e. X (462)	0155Z	185	24000	194	4
-----					
f. W (582)	0158Z	183	19000	195	4
-----					
g. Y (472)	0200Z	208	19000	200	4
-----					
:					
-----					

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	<u>Formation</u>	<u>Time</u>	<u>Heading</u>	<u>Altitude</u>	<u>IAS</u>	<u>#1000-pound bombs</u>
h.	X (496)	0202Z	174	23000	190	3
i.	Y (581)	0202Z	185	22000	195	4
j.	Y (480)	0205Z	154	26000	195	4
k.	X (720)	0205Z	238	19000	195	3
l.	X (532)	0205Z	230	21000	195	3
m.	W (579)	0209Z	103	22600	195	4
n.	Z (678)	0213Z	180	20000	195	4
o.	Z (546)	0215Z	179	23000	unavailable	1*
			* 3 also on ST.			
2. <u>Over Kings Drydock (PT - B)</u>						
a.	Y (502)	0157Z	274	19000	195	4
b.	Z (704)	0203Z	unavailable	unavail	unavailable	4
c.	X (375)	0205Z	230	18100	193	3
d.	X (580)	0213Z	190	20000	200	4
e.	W (407)	0219Z	176	23200	196	4
f.	W (455)	0222Z	172	23000	195	4
	W (374)*    W (394)**					
	* 374	0222Z	180	22500	195	4
	** 394	0222Z	175	22600	195	4
g.	W (587)	0224Z	183	23000	194	4

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3. Over Georgetown (ST)

	<u>Formation</u>	<u>Time</u>	<u>Heading</u>	<u>Altitude</u>	<u>IAS</u>	<u>#1000-pound bombs</u>
a.	Z (445)	0032Z	170	20000	195	4
b.	Z (486)	0057Z	360	24000	195	4
c.	Y (463)	0125Z	184	15000	185	4
d.	Z (714)	0148Z	305	23000	190	4
e.	Y (454)	0150Z	318	23000	195	4
f.	W (757)	0224Z	346	20100	195	4
g.	Y (838)	0254Z	180	20000	195	4
h.	Z (464)	0323Z	150	20000	195	4
i.	Z (546)	0341Z	330	21000	unavailable	3*
			* also 1 on PT - A			

4. Over Mergui (LRT)

a.	W (503)	2334Z	90	15000	195	4
b.	W (233)	0031Z	162	19000	195	4
c.	X (446)	0306Z	340	24000	190	3
d.	Y (230)	0630Z	332	10000	185	4

5. Over Targets of Opportunity

a.	X (378)	0016Z	190	15000	195	3
			(Airdrome at 12°30'N - 98°35'E)			
b.	Z (469)	0148Z	319	23000	192	4
			(Railroad tracks at 05°15'N - 102°03'E)			
c.	Z (691)	0312Z	335	17060	190	3*
			*also jettisoned 1 bomb. (Oil storage area opposite ST)			

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HEADQUARTERS  
XX BOMBER COMMAND  
APO 493

SECRET  
Auth: CG XX BC  
Initials: JW  
Date: 21 Jan 45

CONSOLIDATED  
SPECIALIST MISSION REPORT OF  
STAFF NAVIGATION OFFICER

Date Prepared: 19 January 1945

Field Order Number 27  
Date of Mission: 11 Jan 45

1. In the strike against shipping repair facilities in the Singapore Area, navigation was accomplished with excellent results. Good celestial conditions prevailed to the Malayan Coast and navigators did very good work through the subsequent bad weather to the target. As multi-plane assemblies were not primarily required for successful execution of the mission, unit assemblies presented no problem and many planes bombed the primary target individually. Individual navigators are to be particularly commended for the amount of celestial accomplished and splendid cooperation by radar operators is noteworthy.

a. Average navigation time out and back is indicated below:

	<u>NAV. TIME OUT</u>	<u>NAV. TIME BACK</u>
40th	8h 34m	8h 19m
444th	8h 38m	7h 55m
462nd	8h 37m	8h 22m
468th	8h 05m	7h 47m

b. The following navigational aid work was accomplished:

	<u>CEL. LOP'S</u>	<u>CEL. FIXES</u>	<u>RADIO FIXES</u>	<u>ODM'S</u>
40th	55	26	0	0
444th	43	30	0	2
462nd	59	27	2	6
468th	87	32	3	2

c. Forecast winds were fair to good, with considerable disparity between forecast and actual winds on return route. Actual winds reported, with altitudes, are as follows:

	<u>HALF OUT</u>	<u>TARGET</u>	<u>HALF BACK</u>
40th	5,000' 136° 14k	23,000' 79° 23k	13,000' 236° 15k
444th	8,000' 125° 10k	23,000' 80° 25k	16,000' 180° 18k
462nd	3,000' 210° 13k	22,000' 80° 25k	15,000' 100° 10k
468th	6,000' 169° 15k	23,000' 155° 23k	17,000' 186° 16k

2. No comments were made regarding selection of routes, assembly point or initial point. It is felt that they were adequate except some difficulty was experienced in picking up the assembly point by radar.

3. No special comments were submitted by individual Groups.

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IX - INFORMATION ON LANDINGS

Mission No. 27

11 January 1945

A. Landed at Home Bases

1. Aircraft bombing assigned targets:

<u>Target bombed</u>	<u>40th</u>	<u>444th</u>	<u>462nd</u>	<u>468th</u>	<u>Total</u>
PT (Singapore) - first down	1009Z	0918Z	0924Z	0930Z	0918Z
- last down	1058Z	1050Z	1043Z	1044Z	1058Z
ST (Georgetown) - first down	0920Z	-	0758Z	0700Z	0700Z
- last down	0920Z	-	0953Z	0921Z	0953Z
LRT (Mergui) - first down	0446Z	0738Z	-	-	0446Z
- last down	0517Z	0738Z	-	-	0738Z

2. Aircraft failing to bomb any assigned target:

a. 40th Group: None.

b. 444th Group:

- (1) A/C 378 - 110543Z - target of opportunity.
- (2) A/C 422 - 111047Z - jettisoned bombs.
- (3) A/C 451 - 102238Z - returned bombs.
- (4) A/C 202 - 110938Z - jettisoned bombs.

c. 462nd Group: None.

d. 468th Group:

- (1) A/C 487 - 110942Z - jettisoned bombs.
- (2) A/C 471 - 101316Z - returned bombs.
- (3) A/C 469 - 110830Z - target of opportunity.
- (4) A/C 691 - 110939Z - target of opportunity.
- (5) A/C 417 - 102143Z - returned bombs.

B. Landed at other than Home Bases

1. 40th Group: None.

2. 444th Group: None.

3. 462nd Group:

- a. A/C 502 - landed at China Bay - 111020Z - escorted A/C 581.
- b. A/C 581 - landed at China Bay - 111021Z - #1 engine out.
- c. A/C 230 - landed at Cox's Bazaar - 111020Z - low on fuel.
- d. A/C 472 - landed at Akyab - 110950Z - 2 engines out.

4. 468th Group: None.

C. Aircraft Failing to Return

1. A/C 226 (444th)

2. A/C 704 (468th)

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S E C R E T

ANNEX

B

ENEMY ANTI-AIRCRAFT

\*\*\*\*\*  
\* Prepared by: \*  
\* Flak Officer \*  
\* XX Bomber Command \*  
\*\*\*\*\*

S E C R E T



S E C R E T

\* \* \* \* \*  
\* S E C R E T \*  
\* By Auth of the C.G. \*  
\* XX Bomber Command \*  
\* 23 Jan 45 *7.10* \*  
\* Date Initials \*  
\* \* \* \* \*

HEADQUARTERS  
XX BOMBER COMMAND  
Intelligence Section  
APO 493

P R E L I M I N A R Y R E P O R T

ANTI-AIRCRAFT OPPOSITION

MISSION NUMBER 27, (DAYLIGHT), 11 JANUARY 1945

Primary Target - FLOATING DRYDOCK, NAVAL BASE AREA (Visual), KINGS DRYDOCK,  
SINGAPORE HARBOR (Radar), Secondary Target - GEORGETOWN, PENANG, Target of  
Last Resort - MERGUI HARBOR, BURMA

A. ANTI-AIRCRAFT OPPOSITION ENCOUNTERED

1. FLOATING DRYDOCK, NAVAL BASE AREA (01°28'N - 103°51'E)

Meager to moderate and inaccurate to accurate heavy anti-aircraft fire was encountered by all aircraft over the area from 0150Z to 0215Z at altitudes varying from 19,000 to 24,000 feet through a 3/10 to 6/10 undercast.

Bombing was accomplished by single aircraft and one formation of two over the area at intervals of from one to two minutes between 0150Z and 0215Z. Headings of approach were approximately 180° for 13 aircraft and from 200° to 230° for the remainder or 3 aircraft.

Following are reports of accuracy, intensity, and deviations. The numbers indicate aircraft reporting in the affirmative while percentages are determined from the total number of reports in one direction as above, level, or below:

<u>Reports of Accuracy</u>		<u>Reports of Intensity</u>	
Struck . . . . .	2 ( 8 percent)	Intense . . . . .	0 ( 0 percent)
Rocked . . . . .	0 ( 0 percent)	Moderate . . . . .	11 (52 percent)
Within 150' . . . .	6 (25 percent)	Meager . . . . .	10 (48 percent)
Outside 150' . . .	16 (67 percent)		

Reports of Deviations

Above . 5 (25 percent)	Ahead . . 6 (40 percent)	Left . . . 6 (27 percent)
Level . 8 (40 percent)	Abreast . 4 (27 percent)	In Line . . 9 (41 percent)
Below . 7 (35 percent)	Behind . . 5 (33 percent)	Right . . . 7 (32 percent)

From reports of fire encountered it appears that the enemy was using both Barrage and Continuously Pointed types. The number of bursts observed at one instant varied from 5 to 25 while the total observed for each encounter varied from 10 to 150. At no time were enemy aircraft reported on parallel courses and at the same altitude.

Indicating Barrage types of fire are reports of large quantities of bursts "over the Floating Drydock" and "a circular area around the target with 15 to 20 bursts every 1/2 second". In addition all reports identified Continuously Pointed fire. Aircraft #375 of the 444th Group observed "AA fire in two parallel rows about 30 feet apart" with the bursts

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moving along with the aircraft. The rate of fire at this time was reported as approximately 25 bursts per second by #375 and #496, which figure, however, appears excessive in relation to the known gun defense plus 4 - 4.7"/50 on the CA Atago and 8 - 5"/50 on the CA Mogami.

The Atago which was anchored off the drydock and the Megami, which was damaged and located approximately halfway between drydock and the Causeway both were reported as contributing heavy antiaircraft opposition during the time of the attack. Fire was not as accurate, however, as that encountered from the Nachi class heavy cruiser on Mission #15, 5 November 1944, and it may be that damage sustained by these two units was a contributing cause.

In addition to the black heavy antiaircraft fire reported by all aircraft, several planes reported white and phosphorous AA. The phosphorous bursts were described as "about the size of a normal flak burst with 8-9 streamers". The pilot and co-pilot of A/C #472 of the 462nd Group also reported several unusual white phosphorous flak bursts. "The bursts would explode in a normal manner with white streamers arching up and down. Both state that they saw a black object immediately after the flak explosion. It appeared to be about 12-18 inches long and about as large around as a man's wrist. It would disappear one to three seconds after the bursts with no apparent explosion. Both the pilot and co-pilot seemed to think that the object appeared to unfold or unravel. Approximately ten of these were observed in the Primary Target area."

Evasive action was employed immediately after bomb release and consisted of a series of turns from right to left and the loss of from 500 to 2000 feet of altitude while still in the target area.

2. KINGS DRYDOCK (01°16'N - 105°49'E)

Meager and inaccurate heavy antiaircraft fire was encountered by all aircraft over the area between 0203Z and 0225Z at altitudes varying from 18,000 to 23,000 feet through a 6/10 to 9/10 undercast.

Bombing was accomplished by 6 single aircraft and one formation of 2 aircraft over the area at an average interval of approximately 3 minutes, with headings of approach of about 180° or 240°. At no time were enemy aircraft reported on the same course and altitude.

Following are reports of accuracy, intensity and deviations. The numbers indicate aircraft reporting in the affirmative while percentages are determined from the total number of reports in one direction as above, level, or below:

<u>Reports of Accuracy</u>		<u>Reports of Intensity</u>	
Struck . . . . .	0 ( 0 percent)	Intense . . . . .	0 ( 0 percent)
Rocked . . . . .	0 ( 0 percent)	Moderate . . . . .	2 (25 percent)
Within 150' . . . .	1 (13 percent)	Meager . . . . .	6 (75 percent)
Outside 150' . . . .	7 (87 percent)		

Reports of Deviations

Above . 4 (33 percent)	Ahead . . 4 (36 percent)	Left . . . 3 (30 percent)
Level . 3 (25 percent)	Abreast . 2 (18 percent)	In Line . . 4 (40 percent)
Below . 5 (42 percent)	Behind . . 5 (46 percent)	Right . . . 3 (30 percent)

From reports of fire encountered it is believed that Continuously Pointed fire was used. The number of bursts observed at one instant varied from 1 to 7 while the total reported for each encounter varied from 6 to 50.



S E C R E T

All aircraft observed black bursts, 4 reported white bursts and 2 observed phosphorous AA. All fire originated from land-based heavy AA guns.

3. MERGUI (10°27'N - 98°37'E)

Meager to moderate and inaccurate black and white heavy anti-aircraft fire was encountered by all aircraft over the area from 2334Z to 0631Z at altitudes varying from 10,000 to 24,800 feet through 5/10 to CAVU conditions. The following table shows aircraft over the area in relation to fire encountered:

Air- craft	Bomb Release Time	Time Encount- ered	Fire Encountered	Altitude	Undercast	Heading
1	2334Z	2334Z	HAA-Meager-Inaccurate	15,000'	5/10	90°
1*	0031Z	0022Z	HAA-Meager-Inaccurate	19,000'	5/10	----
		0030Z	HAA-Meager-Accurate	19,000'	5/10	162°
1	0306Z	0306Z	HAA-Meager-Inaccurate	24,800'	4/10	340°
1**	0630Z	0629-31Z	HAA-Meager-Accurate	10,000'	CAVU	332°
			AW -Moderate-Intense Accurate	10,000'	CAVU	----

\* This aircraft made two runs over the target area with fire "much more accurate than on the first run".

\*\* This aircraft was struck by AW fire but no major damage was sustained. The AW fire seemed "to be coming from a four gun site surrounding the power house on the Western side of the island. The heavy AA was believed to have originated from the possible CA or CL observed in the harbor."

Heavy AA fire encountered was Continuously Pointed with the number of bursts at one instant generally one although one crew reported from 1 to 3. The total observed in the area for each encounter varied from 3 to 30 for the heavy AA fire and up to 50 for the AW fire. No enemy aircraft were reported on the same course and altitude.

Deviations of bursts were generally below, behind, and either to the left or right.

The value of maximum altitude and the advantage no more than one run over a defended area is well illustrated in the 5 AA encounters at MERGUI which is known to be defended by 13 heavy AA, 5 light AA and 7 MG's from cover of 5 January 1945 (Section V, "Jap Antiaircraft Defenses", Weekly Intelligence Summary #20, 12 January 1945, E.A.C.). The intensity of heavy AA fire remained meager for all runs, and inaccurate for single runs above 15,000 feet. For the second run of A/C #233 at 0030Z, however, heavy AA fire became accurate. And A/C #230 encountered accurate fire when it attacked at an altitude of 10,000 feet, the opposition improving because of the reduced altitude and CAVU conditions. This aircraft also exposed itself to AW fire and sustained minor damage as a result. If second runs over a gun defended area are necessary, both the heading and altitude should be changed so that corrections applied by the enemy for deviations of bursts on the first run cannot be exploited on the second.

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4. MALACCA (02°12'N - 102°31'E)

One aircraft from 18,000 feet and at 0253Z while approximately 15 miles west of MALACCA observed black heavy antiaircraft fire over MALACCA bursting at an altitude of from 10,000 to 12,000 feet. Bursts were observed at the rate of about 4 per second with a total of 18 occurring in the area. The undercast was from 6/10 to 7/10 with good lateral visibility, but no other aircraft was seen in the vicinity.

5. Five Miles North of GEORGETOWN at 05°33'N - 100°20'E

One aircraft encountered meager and inaccurate black heavy anti-aircraft fire from a possible CA or CL at 0250Z to 0252Z at 21,000 feet altitude under CAVU conditions. The total number of bursts was 5 with deviations below, abreast, and in line. No enemy aircraft were reported on the same course and altitude, and fire is believed to have been Continuously Pointed.

6. SABANG (05°54'N - 95°20'E)

One aircraft encountered meager and inaccurate black heavy anti-aircraft fire at 0511Z at 9,000 feet altitude through a 3/10 undercast. A total of 6 bursts was observed with deviations of below and to the right. No enemy aircraft were observed on the same course and altitude, and fire is believed to have been Continuously Pointed.

7. GEORGETOWN (05°24'N - 100°20'E)

One aircraft (bombs away time 0339Z) encountered meager and accurate white and phosphorous heavy antiaircraft fire at 0341Z at 17,000 feet under CAVU conditions. A total of two bursts appearing independently was observed above, abreast and behind, and right within 150 feet of the aircraft. No enemy aircraft were observed on the same course and altitude.

Although a total of nine aircraft bombed this target starting at 0032Z from altitudes of 15,000 to 24,000 feet, the above aircraft (and last over) was the only aircraft reporting AA opposition.

8. PEENANG South Airdrome (05°17'N - 100°16'E)

One aircraft encountered meager and inaccurate black heavy anti-aircraft fire at 0323Z at 20,000 feet under CAVU conditions. A total of two bursts appearing independently was observed level, ahead and to the left. No enemy aircraft were reported on the same course and altitude.

B. HIGH-ALTITUDE BALLOONS

1. South End of SINGAPORE ISLAND (01°15'N - 103°50'E)

Aircraft #734 of the 468th Group at 0156Z from 20,000 feet observed 2 high-altitude balloons at approximately 18,000 feet and about one mile from the aircraft. The balloons were described as oblong, dark in color, close together, and approximately 3 times as large as the conventional barrage balloon.

2. NAVAL BASE AREA (01°26'N - 103°50'E)

One aircraft of the 444th Group at 0202Z from 23,000 feet observed two high-altitude balloons at approximately 22,000 feet and from 5 to 10 miles from the aircraft. The balloons were described as oval in



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shape and white. No other information is available.

Although the reported color of the two balloons is not similar for the two observations at 0156Z and 0202Z, it is possible that both reports refer to the same balloons after consideration of the time and location of the observations.

C. SMOKESCREENS

Ineffective smokescreens were identified on strike photos and reported by combat crews at the NAVAL BASE Area and SINGAPORE.

Damage Assessment Report Number 36 states, "White smoke generators were active in an attempt to screen the floating dock as well as the Naval Dry Dock. In the case of the former, small craft were used which cruised about upwind of the dock. Generators situated along the banks of the dock were used for the attempted screening in the case of the Naval Dock. Judging from the few strike photos available, no serious difficulty of recognition is thought to have resulted from the quantity of smoke laid down. However, this smoke appears to be somewhat more persistent than any white smoke heretofore used and it is possible that by using large numbers of generators, local targets might be effectively screened. This type of generator appears unsuitable for screening of large areas in contrast to those generators used by the Jap so effectively at MUKDEN, Manchuria." From 4 to 5 small ships equipped with generators were reported by combat crews.

Relating to the smokescreen at SINGAPORE, Damage Assessment Report Number 37 states, "White smoke generators were active during the attacks in an attempt to screen warehouses along the wharf and the drydock proper. At no time, however, did the smoke generated offer any serious difficulty to either recognition or bombing. The generators were again active during the post-strike reconnaissance."

D. BARRAGE BALLOONS AND GROUND-TO-AIR ROCKETS

None reported.

E. DAMAGE FROM HEAVY ANTI-AIRCRAFT FIRE in the NAVAL BASE Area

One aircraft, #475 of the 462nd Group, was reported as damaged following ground inspection. Damage was inflicted at 0150Z, possibly from naval heavy AA fire, on a heading of 180° at an altitude of 21,000 feet. This aircraft was one of a formation of 2 which were the first aircraft bombing the Floating Drydock in the NAVAL BASE Area. Flak damage was minor and consisted of a hole in the wing and tail end cracked gunner's blister.

F. WARNING NETS

From R.C.M. intercepts of early-warning signals starting just north-east of the ANDAMANS ISLANDS, it is possible that the enemy had warning of the attack. Operation of smoke generators in the target area would tend to confirm this although no enemy fighter attacks were made until 0153Z, or 3 minutes after the first "bombs away" time at the NAVAL BASE Area.

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Chief, Intelligence Section.

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ANNEX

C

ENEMY AIR OPPOSITION

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*****  
* Prepared by: *  
* Operational Intelligence Unit *  
* XX Bomber Command *  
*****
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JAPANESE FIGHTER TACTICS - MISSION NO. 27

TARGET: Singapore, Malaya.

TIME: Day Mission.

DATE: 11 January 1945.

1. General

a. Enemy air opposition was weak with 25 out of 47 airborne B-29's being attacked. The enemy waged 99 single and coordinated attacks against these 25 aircraft, resulting in a total of 145 individual encounters on which there is complete information. In addition, 1 B-29 was subjected to an unknown number of attacks in the primary target area during a 17 minute period by an estimated 22 enemy aircraft, the attacks coming so fast and in such profusion that a complete and detailed report could not be made. Two B-29's were lost, and it is impossible in either case to determine accurately the reason for the loss. One aircraft exploded in mid-air over the primary target; the explosion could have been caused by air action as enemy fighters were attacking at the time, or it may have been due to antiaircraft or other causes. The other B-29 was last heard of when proceeding north along the western shore of the Malay Peninsula; 1 and possibly 2 engines were non-operative, which again may have been due to enemy air action. In addition, 6 B-29's were damaged by enemy fighters. Preliminary claims against enemy aircraft are 6 destroyed, 1 probably destroyed and 17 damaged.

b. As shown in the following table, 143 encounters took place in the primary target area during a 1 hour and 25 minute period at altitudes of 18,000 to 25,200 feet; the remaining 2 encounters occurred at the secondary target at 0313Z and 0321Z, at 17,060 feet and at 19,000 feet. It is estimated that the mission was opposed by 40-50 enemy fighters, consisting of 20-25 OSCARS, 6-8 ZEKES, 4-5 TOJOS, 3-4 RUFES, 2 TONYs, 2 ZEKES 32'S, 1 NICK, 1 KATE, 1 JAKE.

Table No. 1 - Details of Encounters

<u>Location</u>	<u>No. of Encounters</u>	<u>Type of E/A</u>	<u>Time</u>	<u>Altitude</u>
<u>Primary Target</u> (Singapore)	143	74 by OSCAR	0153Z	18,000
		22 by ZEKES	to	to
		15 by TOJO	0316Z	25,200
		12 by RUFES		
		7 by TONY		
		4 by ZEKES 32		
		4 by unidentified E/A		
		2 by NICK		
		2 by S/E		
		1 by KATE		

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Table No. 1 - Details of Encounters (continued)

<u>Location</u>	<u>No. of Encounters</u>	<u>Type of E/A</u>	<u>Time</u>	<u>Altitude</u>
Secondary Target (Georgetown)	2	1 by RUBE 1 by JAKE	0313Z 0321Z	17,060 19,000

c. Fifty-four, or 37 per cent, of the encounters took place before bombs had been dropped, 9 encounters or 6 per cent of the total occurred while bombs were being dropped, and the remaining 82 encounters or 57 per cent occurred after bombs away. This is a higher percentage of encounters before bombing than was experienced on the last Singapore mission on 5 November 1944.

2. Direction and Level of Approach

a. Thirty-eight per cent of the encounters originated from the front quarter, 29 per cent from the right quarter, 17 per cent from the rear and 16 per cent from the left side. This distribution is very similar to that experienced in Mission No. 25 against Omura (39 per cent front, 20 per cent right, 20 per cent rear and 21 per cent left), particularly in regard to the percentage of frontal attacks. It shows a decrease in frontal approaches as compared to Mission No. 15, also against Singapore, where the front quarter percentage was 53 per cent. The distribution of attacks on Mission No. 27 compares almost exactly to the summary of approaches on the first 25 B-29 missions, which shows 40 per cent front, 26 per cent right, 16 per cent rear and 18 per cent left.

b. Forty-seven per cent of all approaches on Mission No. 27 were high, 28 per cent were level and 25 per cent were low. These figures compare with 49 per cent high, 12 per cent level and 39 per cent low on Mission No. 25, and with 38 per cent high, 21 per cent level and 28 per cent low on Mission No. 15 against Singapore.

c. Of total attacks against the front quarter, 51 per cent were high, 25 per cent were level and 24 per cent were low. This is a slightly decreased percentage in the high approach bracket, recent missions having averaged about 65 per cent.

d. A summary of directions and levels of approach for all encounters is shown in Tables No. 2 and No. 3, and in Exhibit A.

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Table No. 2 - Direction and Level of Approach

Direction of Attack or Pass	Front			Right			Rear			Left			Total
	11	12	1	2	3	4	5	6	7	8	9	10	
High	2	15	11	8	8	2	3	5	1	0	4	9	68(47%)
Level	2	3	9	3	7	1	3	4	1	0	3	4	40(28%)
Low	4	6	3	4	7	2	1	2	5	1	0	2	37(25%)
Total	8	24	23	15	23	5	7	11	7	1	7	15	145(100%)
	55(38%)			42(29%)			25(17%)			23(16%)			

Table No. 3 - Level of Approach

Level of Approach	Front	Right	Rear	Left
High	28 (51%)	18 (43%)	9 (36%)	13 (57%)
Level	14 (25%)	11 (26%)	8 (32%)	7 (30%)
Low	13 (24%)	13 (31%)	8 (32%)	3 (13%)
Total	55 (100%)	42 (100%)	25 (100%)	23 (100%)

3. Exchange of Fire

a. Enemy pilots opened fire in 88 of the encounters, or 61 per cent, which is about average for recent missions. B-29's opened fire in 132, or 91 per cent, of the encounters, which compares to 92 per cent in the case of Mission No. 25, and an average figure of about 90 per cent in all recent missions. Much of the firing on both sides was begun at long ranges, as shown in Table No. 4.

Table No. 4 - Distances Opened Fire

Distance (yards)	<u>Enemy Fire</u>		<u>B-29 Fire</u>	
	<u>No. of Attacks</u>	<u>Percent</u>	<u>No. of Attacks</u>	<u>Percent</u>
0 to 499	5	6	7	5
500 to 799	29	33	20	15
800 to 999	35	40	36	27
1000 & over	19	21	69	53
Total	88	100	132	100

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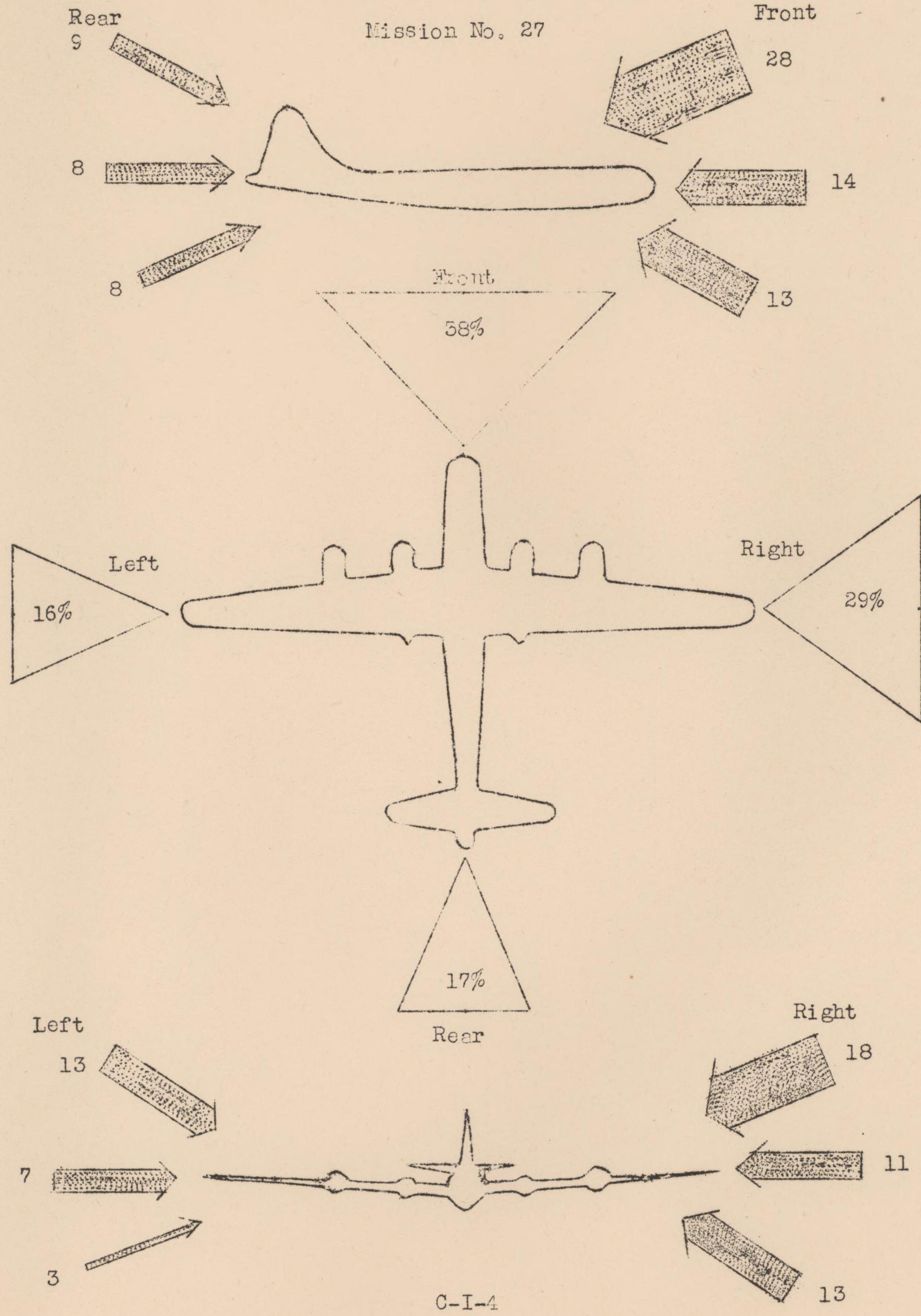
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Exhibit A

DIRECTION AND LEVEL OF APPROACH



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4. Aggressiveness of Enemy Attacks and Pilot Ability

a. Enemy pilots exhibited about the same degree of aggressiveness as in Mission No. 25 against Omura, with 35 per cent of the attacks being pressed to less than 250 yards. This represents a decrease in aggressiveness as compared to Mission No. 23 (59%), No. 21 (45%), No. 19 (52%), and No. 18 (53%). A slightly higher degree of aggressiveness was shown, however, than in the case of Mission No. 15, the first attack on Singapore, in which only 30 per cent of the attacks were pressed to less than 250 yards.

b. Only 1 instance was recorded of an enemy fighter diving through a formation, despite the fact that formations were small and consisted of only 3 plane rather than 12 plane formations as used on all recent missions.

c. There were no collisions or ramming encounters, and only 1 instance of what might have been an intention to ram. The fighter approached level at 12 o'clock on a B-29 which dropped its nose and the fighter continued on course, passing 20 yards overhead.

d. Although enemy pilots were not as aggressive as in many previous missions, still a fairly high degree of flying skill was reported, particularly as pertains to coordinated attacks. Many of the latter were skillfully executed, well timed and exhibited not only a good degree of pilot ability but of teamwork as well.

e. Distances to which encounters were pressed are shown in Table No. 5.

Table No. 5 - Distances to which Attacks Were Pressed

<u>Distance(yards)</u>	<u>No. of Encounters</u>	<u>Percent</u>
1000 & over	5	3
800 to 999	14	10
500 to 799	44	30
250 to 499	32	22
0 to 249	50	35
Total	145	100

5. Aerial Bombing Attacks

a. Eighteen aerial bombing attacks were reported, plus an indefinite number by the 22 enemy aircraft which attacked a lone B-29 repeatedly during a 17 minute period. It was impossible for the crew to determine accurately the number of attacks in this latter case, but it was believed that each of the estimated 22 fighters dropped at least 1 aerial bomb and that possibly some dropped 2. All bombs were of the phosphorous type, exploding

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in mushroom like bursts which developed white streamers. Several of the bombs were observed before exploding, and were described as being similar in appearance to 100 pound practice bombs.

b. Bombs were released while the fighters were in level flight, by dive bombing and by "flipping" during a sharp turn. Of the 18 attacks for which all details are known, 16 or 88 per cent, were made against the front quarter, 1 approach coming in at 9 o'clock and 1 dead astern at 6 o'clock. Distance of release varied from 500 yards to 100 feet, but averaged about 200 yards. One unusual attack was made when an OSCAR approached low at 12 o'clock, pulled up sharply and passed over the B-29, dropping an aerial bomb when about 200 yards above our aircraft. The bomb fell wide of its mark, and no damage was done.

c. Three of the aerial bombing attacks were coordinated, 1 by 2 fighters, 1 by 4 and the other by 5 fighters attacking in coordination with 3 other fighters which did not drop bombs. In the first attack, 2 OSCARS approached in trail at 10 o'clock high and released 1 bomb each while in level flight about 500 yards above the B-29. No damage was done. In the 4 plane attack 2 TOJOS, 1 OSCAR and 1 TONY attacked in trail from 12 o'clock. The approach was made very high, and the fighters went into sharp dives when about 800 yards out, aiming at the nose of the bomber. Aerial bombs were released when the fighters were about 200 yards out and above, after which the enemy aircraft zoomed and went out at 6 o'clock. Several of the fighters also fired at the B-29 with machine guns during their dives. Our aircraft opened fire at 800 yards, but no damage was done on either side. In the attack involving 8 enemy aircraft, 3 ZEKES attacked in trail at 10 o'clock level opened fire at 800 yards and closed to about 200 yards. At the same time 5 OSCARS approached at 1 o'clock very high dropping bombs while in level flight. The B-29's opened fire on both strings at about 1200 yards, but again no damage was inflicted on either side.

d. None of the serial bombing attacks resulted in damage to B-29's. One bomb exploded level and just ahead of the right wing of a B-29; the pilot banked to the left and the right wing went through several of the phosphorous streamers, but there was no damage. This was the best example of marksmanship displayed by the Jap pilots insofar as aerial bombs are concerned.

6. Coordinated Attacks

a. Twenty-seven of the 99 attacks were coordinated and accounted for 65, or 45 per cent, of the total 145 encounters. This is an unusually high percentage of coordinated encounters and indicates a trend towards teamwork and planning on the part of Japanese pilots. The percentage of coordinated encounters was 24 per cent in the case of Mission No. 25, 35 per cent in Mission No. 23 and 43 per cent in Mission No. 22.

b. One coordinated attack was executed by 8 enemy fighters, 3 attacks were executed by 4 fighters, 1 by 3 and the remainder by 2 enemy aircraft. None of the attacks employed any new or exceptional tactics, and they were characterized chiefly by their numbers, timing and the skill with which they were flown.

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The 8 plane attack has been described under "Aerial Bombing". In a typical 4 plane attack, 2 OSCARS came in at 10 o'clock level and pressed their attacks to 200 yards; at the same time 2 OSCARS approached at 2 o'clock level, broke off at 800 yards, went into a shallow sliding dive to their own left, then pulled up in a steep climb to attack again from 3 o'clock to 5 o'clock level. All 4 fighters broke away in split S's. The B-29 opened fire on both strings at about 1200 yards, but no damage was done on either side. On another occasion, 4 OSCARS executed a typical "Sidewheeler" attack, 2 coming in at 3 o'clock low and 2 at 9 o'clock low. Again, the attacks from the left were closely pressed, while the 2 planes from the right beam broke off at 700-800 yards. Fire on both sides was ineffective. Several instances were reported where 1 enemy fighter performed acrobatics, apparently attempting to distract attention from an attack originating from another direction. One coordinated tail attack was reported in which a TOJO approached at 6 o'clock low, followed immediately by an OSCAR at 7 o'clock high out of the sun. Both fighters pressed the attack to about 100 yards and went out in sharp dives towards 11 o'clock.

7. Ramming Attacks: There were no ramming attacks or collisions, and only 1 report of a possible ramming attempt. The fighter approached from 12 o'clock level, and the B-29 dropped sharply in evasive action; the fighter passed over the B-29 in level flight at a distance of about 20 yards. The B-29 crew believed that the enemy pilot intended to ram, but this view is open to question in that the fighter proceeded on course in level flight.

8. Evasive Action by B-29's: In addition to the evasive action described in Section 7, the following evasive measures were employed by our aircraft:

- a. One B-29 made slight turns on all tail attacks.
- b. One B-29 increased power and dropped 500 feet in altitude with turn to the right and left, turning into the fighters that made firing attacks, and away from those that dropped aerial bombs.
- c. One B-29 turned towards a NICK attacking from 3 o'clock level.

9. Possible New Weapons: One B-29 at 0225Z, altitude 24,000 feet over the primary target area, sighted silvery strands resembling tinfoil floating in the air to the rear of the plane. No enemy aircraft were seen, but there was a heavy overcast and it is possible that an enemy plane was in the area. The purpose of the tinfoil was not determined.

10. Attacks Against Formations: Thirty-one or 21 per cent of the 145 encounters were made against formations of 3 B-29's. When attacking these formations, Japanese pilots indicated a preference for the wing plane. Only 3 of 31 encounters were waged against the No. 1 (lead) plane, 16 were against the No. 2 (right) plane, and 12 against the No. 3 (left) plane. There were no B-29 formations composed of more than 3 planes, and most of the B-29's attacked were flying singly.

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11. Preliminary Claims Against Enemy Aircraft: Following are details of combat on preliminary claims of 6 enemy aircraft destroyed, 1 probably destroyed and 17 damaged.

Table No. 6 - Details of Combat - Preliminary Claims

Enemy Aircraft	Claim	No. of B-29's in Formation	Direction and Level of Approach	B-29's Opened Fire (yards)	Distance E/A Brokeaway or Disintegrated (yards)
TOJO	Destroyed	S	3 level	1000	100
NICK	Destroyed	S	3 level	600	100
OSCAR	Destroyed	S	1 level	1200	70
OSCAR	Destroyed	3	3 ---	1000	900
OSCAR	Destroyed	S	3 high	1200	800
OSCAR	Destroyed	S	10 high	800	200
TOJO	Prob Dest	S	12 high	800	50
TOJO	Damaged	S	2 high	800	300
ZEKE	Damaged	S	11 low	1200	200
TOJO	Damaged	S	6 high	600	100
RUFE	Damaged	S	2 level	750	400
OSCAR	Damaged	S	2 level	800	400
ZEKE	Damaged	3	3 low	800	300
RUFE	Damaged	S	2 low	800	700
TOJO	Damaged	S	2 low	900	300
TONY	Damaged	3	3 high	500	250
TONY	Damaged	3	1 level	1000	500
ZEKE 32	Damaged	S	2 low	1200	400
OSCAR	Damaged	2	4 high	1000	300
ZEKE	Damaged	S	7 low	600	500
OSCAR	Damaged	S	11 high	600	15
ZEKE 32	Damaged	S	12 low	300	10
OSCAR	Damaged	3	5 level	1500	600
ZEKE	Damaged	S	9 level	500	500

12. Summary

a. Enemy air opposition is rated as weak, with 25 of 47 B-29's sustaining 99 single and coordinated attacks, resulting in a total of 145 individual encounters. Two B-29's were lost and it is possible that 1 or both losses were due to enemy air action. Six of our aircraft were damaged. Preliminary claims against enemy fighters are 6 destroyed, 1 probably destroyed and 17 damaged. It is estimated that the mission was opposed by 40-50 enemy aircraft.

b. All attacks occurred in the primary and secondary target areas. There were no interceptions on the routes to or from the targets.

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c. Japanese pilots again indicated a preference for the high frontal approach. The enemy opened fire in 61 per cent of the encounters and B-29's in 91 per cent of the encounters. Air opposition was only moderately aggressive, but enemy pilots exhibited a good degree of flying skill and teamwork. Coordinated attacks were numerous, and accounted for 45 per cent of total encounters. The enemy made an unusually large number of aerial bombing attacks.

d. Most B-29's attacked the targets singly. In the case of the few formations that were flown, consisting of 3 B-29's, enemy pilots indicated a preference for attacks on the wing planes. Four B-29's employed evasive action consisting of drops in altitude and turns to both the right and left.

13. Enemy Aircraft Markings

<u>Color</u>	<u>Aircraft</u>	<u>Wing and Fuselage Markings*</u>
Silver	OSCARS	Red ball on each wing.
"	RUFES	Red insignia.
Brown & grey	ZI KE	Brown top; grey bottom.
" "	OSCAR	Brown top, grey bottom.
Olive-drab	KATE	No markings observed.
Grey	OSCAR	No markings observed.
Black	TONYS	No markings observed.
"	OSCARS	No markings observed.
"	ZEKE	No markings observed.
Red & black	OSCAR	No markings observed.
Camouflaged	OSCARS	No markings observed.
"	ZEKE	No markings observed.
"	RUFES	No markings observed.
Blue	RUFES	No markings observed.
Camouflaged & blue	OSCAR	Blue underneath, camouflaged on top.
Green	TOJOS	Brown cowlings.
"	TOJO	Red insignia.
Unreported color	TOJO	Yellow stripe around fuselage near tail.
"	OSCAR	Green cowling.
"	TONY	Blue band back of cockpit.

\* No tail markings observed.

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ANNEX

D

WEATHER INFORMATION

- I - Weather Information
- II - Chart - Weather as Forecast and as Encountered
- III - Synoptic Map
- IV - Behavior of Aircraft in Severe Turbulence

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I - WEATHER INFORMATION

Mission No. 27

11 January 1945

	As Forecast	As Encountered
Base at Take-off	Clear. Visibility 6 miles.	<u>KHARAGPUR</u> : Clear. Visibility 7 miles. Wind north 7. <u>PIARDOBA</u> : Clear. Visibility 6 miles. Wind east 6. <u>CHAEJIA</u> : Clear. Visibility 6 miles. Wind calm. <u>INDEKUNDI</u> : Clear. Visibility 10 miles. Wind calm.
Route Out	Base to 16°N: Clear. 16° to 11°N: 6/10 cumulus, base 2000', tops 6000'. 8/10 cirrostratus at 30,000'. 11°N to Target: Broken to overcast cumulus and occasional cumulonimbus over land areas with general tops at 16,000', scattered tops at 25,000'. 8/10 cirrostratus 30,000'. Visibility 20 miles.	Base to 16°N: 2/10 small stratocumulus at 2000'. 16°N to 11°N: 2/10 small stratocumulus at 2000'. 11°N to 09°N: 4/10 cirrostratus at 25,000'. 10/10 heavy swelling cumulus with tops at 16,000'. While they were frontal in nature, they were probably due to a zone of convergence. Light turbulence and light rime ice were encountered and lightning and rain showers observed. 09°N to 04°N: 1/10 altostratus at 8000'. 04°N to Target: At 04°N another severe zone of convergence was encountered. The cumulonimbus rose to 25,000', giving light icing and snow showers at altitude. Turbulence was generally moderate but in a few cases was reported as extremely severe. The cumulonimbus terminated about 40 miles from the target.
Target Area	4/10 cumulus, base 2000', tops 6000'. 10/10 cirrostratus at 35,000'. Visibility 25 miles. Target pressure: 29.86 inches.	<u>Primary</u> : 10/10 cirrostratus at 24,000'. 3/10 to 4/10 cumulus or stratocumulus at 3000' with tops to 6000' or 8000'. Visibility 10 miles or better. Conditions varied rapidly at the target area, probably due to rapidly drifting lower clouds, and a few planes found the target covered. <u>Secondary</u> : Clear. Visibility 30 miles.
Return Route	10/10 cirrostratus at 35,000'. Scattered cumulus, tops 5 to 7,000' over water, with broken towering cumulus and cumulonimbus over land to the west. Occasionally cumulus over water will increase to broken. Clear from 17°N to base.	The convergent zones at 04°N and 11°N had dissipated considerably. Otherwise conditions were similar to those on the route out.

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	As Forecast	As Encountered
Base on Return	Clear. Visibility 6 miles.	<u>KHARAGPUR</u> : Scattered altocumulus. visibility 10 miles. Wind E 5. <u>PIARDOBA</u> : High scattered altocumulus. Visibility 12 miles. Wind NNE 8. <u>CHAKULIA</u> : Clear. Visibility 6 miles. Wind E 1. <u>DUDHKUNDI</u> : Clear. Visibility 8 miles. Wind E 5.

A. Winds Aloft - Forecast

Altitude	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1,000'	010 Deg-08K	050 Deg-08K	100 Deg-08K	070 Deg-10K
5,000'	320 Deg-15K	270 Deg-10K	140 Deg-12K	090 Deg-12K
10,000'	250 Deg-20K	180 Deg-15K	130 Deg-15K	090 Deg-15K
15,000'	250 Deg-25K	190 Deg-20K	120 Deg-18K	090 Deg-20K
20,000'	260 Deg-35K	200 Deg-25K	110 Deg-20K	080 Deg-25K
23,000'	260 Deg-45K	205 Deg-25K	105 Deg-25K	080 Deg-25K
25,000'	260 Deg-50K	210 Deg-25K	100 Deg-25K	080 Deg-25K

B. Winds Aloft - Encountered

Altitude	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
3,000'	010 Deg-07K			
5,000'	260 Deg-15K	260 Deg-15K	136 Deg-14K	
10,000'	260 Deg-15K	260 Deg-15K		
11,000'			105 Deg-08K	
12,000'			150 Deg-25K	
13,000'		236 Deg-15K		
15,000'			150 Deg-25K	
22,000'				080 Deg-25K
23,000'				079 Deg-23K
24,000'				075 Deg-25K

C. Target Temperatures

1. As Forecast

Altitude	Temperature
1,000'	26 Deg C.
5,000'	18 Deg C.
10,000'	10 Deg C.
15,000'	-03 Deg C.
20,000'	-07 Deg C.
23,000'	-11 Deg C.
25,000'	-15 Deg C.

2. As Encountered

Altitude	Temperature
22,000'	-07 Deg C.
23,000'	-10 Deg C.
24,000'	-16 Deg C.

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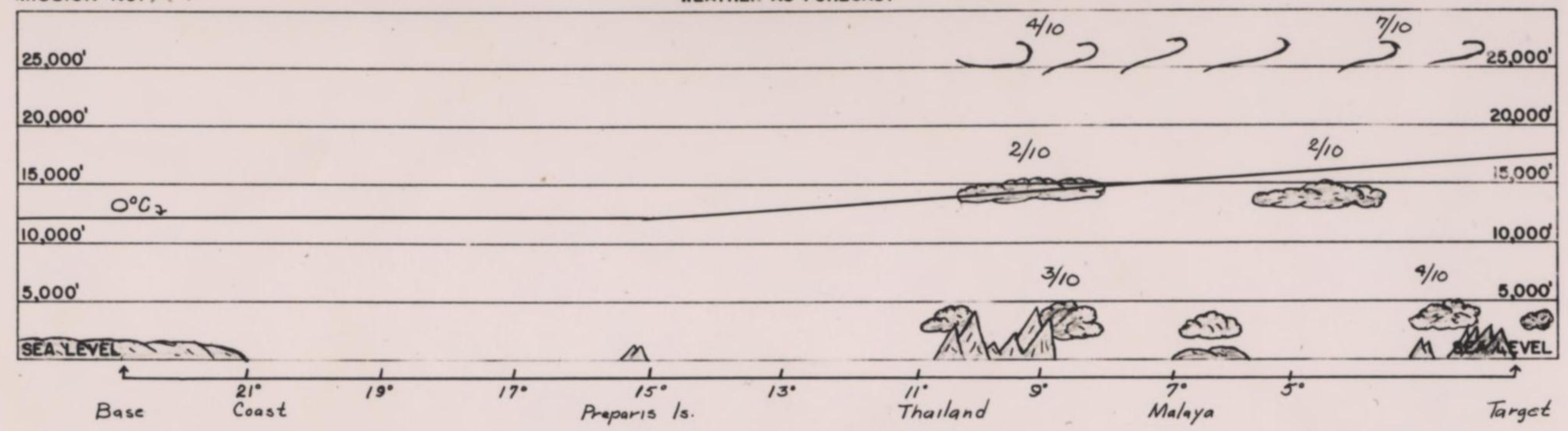
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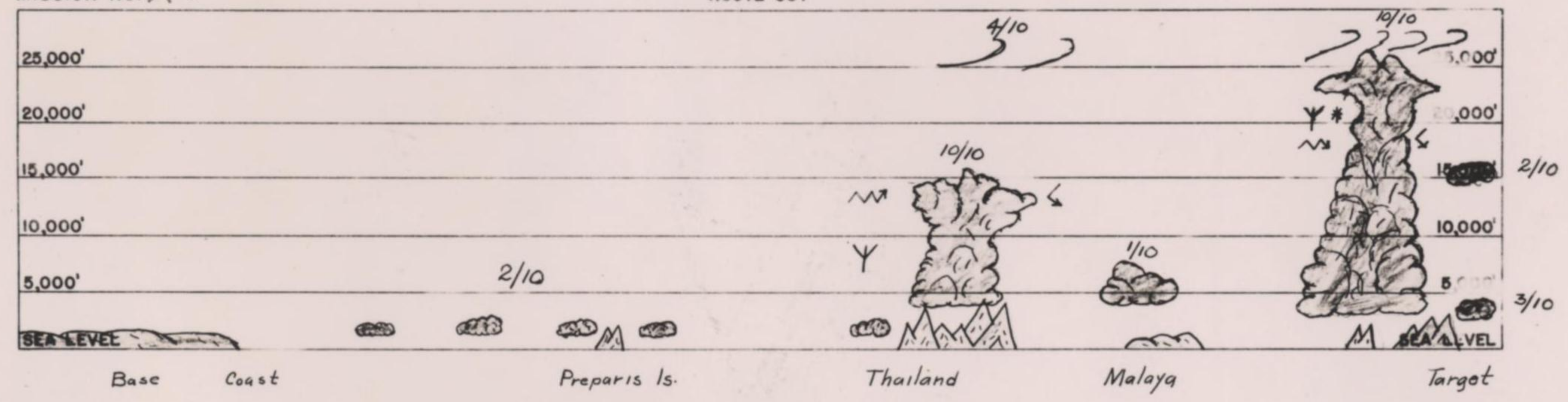
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 WEATHER AS FORECAST

MISSION NO. *67*



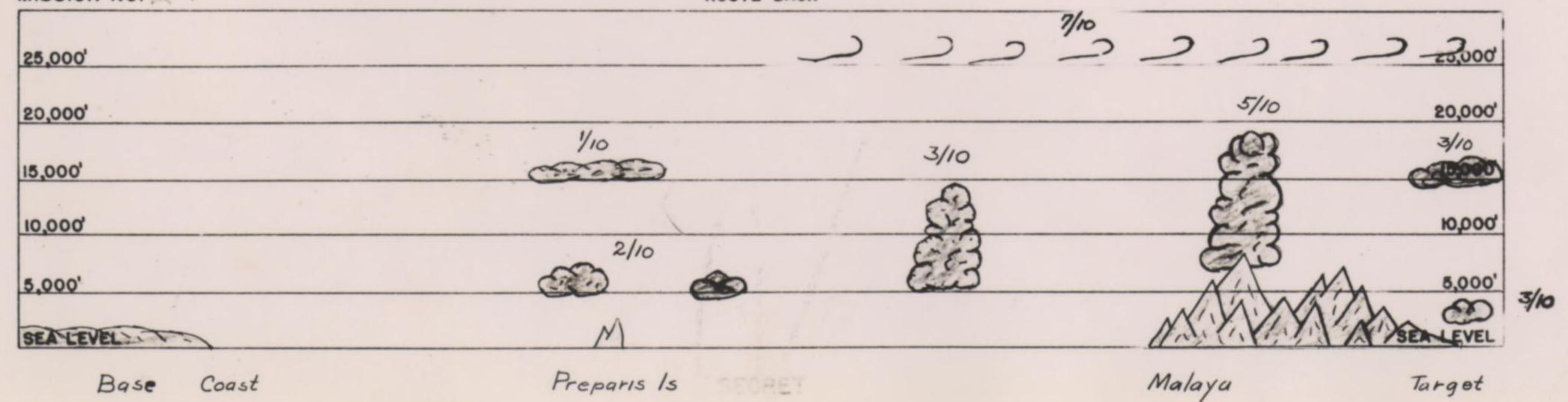
WEATHER AS ENCOUNTERED  
 ROUTE OUT

MISSION NO. *67*



WEATHER AS ENCOUNTERED  
 ROUTE BACK

MISSION NO. *67*



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Authority *ND 160003*  
By *SP* NARA Date *11/7/05*



S E C R E T

IV - BEHAVIOR OF AIRCRAFT IN SEVERE TURBULENCE

Mission No. 27

11 January 1945

The following is a narrative report of the experience of Captain Bores and the crew of A/C 487 (468th) during a severe storm encountered during this mission.

"Our first winds and the general weather from base to one and a half hours from the first turning point was as briefed. At this time there was a slight change in winds and we were blown to right of course. On the turn across the Malay Peninsula, the winds were still much as briefed, in that the direction was accurate but the velocity was higher. Much cloud coverage was encountered at start of peninsula, and it kept building up all the way to the turning point just before the initial point. At this point we encountered tall cumulus clouds up to fourteen thousand feet. We hit the turning point at an altitude of twenty-four thousand feet, and started on a course for the assembly point. There was an abundance of stratocumulus below and above us. Ten minutes from the assembly point we circled a large thunderhead to the right and in the direction of the mainland. We then took a heading for the initial point. Throughout the first part of the trip we had maintained contact with airplanes 704, 469, and 691. About seventy-five miles from the turning point at 0100Z, our life raft had sprung out and destroyed the antenna. From this time on we had poor reception from A/C 704 which was ahead of us in the clouds and therefore in the static, but reception was good from A/C 691, which was somewhere behind us and still in the clear. Despite the malfunction of the radar set, which would go off and on, we took a heading with the help of the set. At 0152Z, we hit a storm, and we were caught in a downdraft which sent us from twenty-four thousand feet to twelve thousand feet at the rate of six thousand feet a minute or better. We were in a spiral to the left. An up-draft hit us and we ascended from eighteen thousand feet (where we had finally managed to climb under some control) to twenty-five thousand feet at the rate of six thousand feet a minute or better. Our air-speed went from three hundred and ten miles per hour to one hundred and eighty on down-draft. Both pilot's and co-pilot's gyro-horizons and pilot's gyro-compass went out. Both the pilot and co-pilot fought the controls to keep the plane out of a spin, and the pilot attempted to de-pressurize at twenty-five thousand feet. The pilot pulled the handle to no avail and then told the engineer to try. Depressurization was effected by the engineer, but by this time the storm affected the airplane in such a manner as to make it nearly impossible for all crew members to put on oxygen masks. The radar operator's seat was torn from floor before the operator had a chance to put on his mask. He held on to the table, but the table also jarred loose. He unbuckled his safety belt and crawled back to right gunner who attempted to give him oxygen and finally succeeded. The top-turret gunner suffered shock from severe jolting and crawled down later with an upset stomach. Bombs were sheared from their shackles and driven through the bomb bay doors at approximately 0200Z. The pilot and co-pilot finally effected a recovery at approximately 0210Z, and at 0241Z the navigator took a bearing from the southwest tip of an island which could be seen through hole in clouds. The airplane then turned west southwest and headed for base."

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By *sw* NARA Date *11/17/05*



S E C R E T

ANNEX

E

COMMUNICATIONS INFORMATION

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

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E.O. 11652, sec. (E) and 5(D) of (R)  
NND 740120  
By cbmt NARS, Date OCT 21 1975

S E C R E T

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Authority NND 760063  
By sw NARA Date 11/17/05



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: Auth: CG XX BC :  
: Initials: :  
: Date: 17 Jan 45 :  
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HEADQUARTERS  
XX BOMBER COMMAND  
APO 493

CONSOLIDATED  
SPECIALIST MISSION  
REPORT OF

XX BOMBER COMMAND COMMUNICATIONS (RADIO) OFFICER

Date Prepared: 17 January 1945. Field Orders No: 27

Date of Mission: 11 January 1945.

1. Communications for mission number twenty-seven (27) were in general satisfactory. The extremely long distance flown tended to decrease signal strengths and readabilities, below that normally encountered, however contact was established and maintained throughout the mission.

2. For the purpose of acquainting Communication personnel with the procedure involved in handling a change of target message, a practice message was sent from the Command Post. A time study of the handling of this message is contained in Annex One (1) to this report.

3. Communications procedures and compliance with the provisions of the Tactical Doctrine were excellent. A large increase in the volume of traffic handled was noted. This can be attributed to the fact that the Field Orders called for three plane formations, but in most cases, due to bad weather conditions, these formations were not accomplished, thus the resultant increase in traffic. A compilation of the number of messages handled is as follows:

	<u>40th Gp</u>	<u>444th Gp</u>	<u>462nd Gp</u>	<u>468th Gp</u>
a. Aborts:	0	1	0	2
b. Bombs Away:	9	8	11	10
c. Position:	0	11	8	12
d. Attack:	1	5	4	3
e. Convoy Sighting:	0	2	1	0

4. A comparative study of the readability, signal strength and noise level of the frequencies in use, divided into two (2) hour periods is as follows; - Time indicated is GMT:

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a. AIRCRAFT TO GROUND STATION:

<u>Frequency</u>	<u>1700-1900</u>	<u>1900-2100</u>	<u>2100-2300</u>	<u>2300-0100</u>	<u>0100-0300</u>
2055 kcs	S4 R4 W2	S3 R2 W3	S2 R2 W2	S1 R1 W3	Off Air
2955 kcs	S4 R3 W2	S4 R3 W2	S2 R2 W2	Off Air	
4785 kcs	S4 R4 W2	S4 R2 W4	S3 R3 W2	S2 R2 W3	S1 R1 W3
4825 kcs	-- -- --	-- -- --	-- -- --	S5 R5 W3	S4 R4 W4
4995 kcs	-- -- --	S3 R3 --	S4 R5 --	S3 R3 --	S2 R3 --
8260 kcs	-- -- --	S3 R3 W1	S3 R3 W1	S3 R3 W1	S2 R2 W2
8310 kcs	-- -- --	S1 R2 --	S1 R1 --	S1 R1 --	S2 R3 --
8495 kcs	-- -- --	-- -- --	-- -- --	S3 R4 W2	S2 R2 W4
8545 kcs	-- -- --	-- -- --	-- -- --	S1 R1 W4	S3 R3 W2
12215 kcs	Off Air				S3 R3 W2
12285 kcs	-- -- --	-- -- --	-- -- --	-- -- --	S1 R2 W3

<u>Frequency</u>	<u>0300-0500</u>	<u>0500-0700</u>	<u>0700-0900</u>	<u>0900-1100</u>
2055 kcs	Off Air			
2955 kcs	Off Air			
4785 kcs	S2 R2 W3	S3 R3 W2	S5 R5 W2	S5 R5 W1
4825 kcs	S2 R1 W3	S2 R3 W3	S2 R3 W3	-- -- --
4995 kcs	S2 R2 --	S1 R2 --	-- -- --	-- -- --
8260 kcs	S4 R4 W1	S5 R5 W1	S5 R5 W1	S5 R5 W1
8310 kcs	S3 R4 --	S3 R4 --	S4 R5 --	S5 R5 --
8495 kcs	S3 R4 W2	S3 R4 W2	S4 R5 W1	-- -- --
8545 kcs	S5 R5 W2	S5 R5 W2	S5 R5 W2	S5 R5 W2
12215 kcs	S3 R3 W2	S2 R2 W2	S2 R2 W2	S1 R1 W3
12285 kcs	S2 R2 W3	S2 R2 W3	S2 R2 W3	S2 R2 W4

b. GROUND STATION TO AIRCRAFT:

<u>Frequency</u>	<u>1700-1900</u>	<u>1900-2100</u>	<u>2100-2300</u>	<u>2300-0100</u>	<u>0100-0300</u>
2055 kcs	S4 R4 W2	S3 R3 W3	S2 R2 W2	S1 R1 W4	Off Air
2807.5 kcs	S3 R3 W3	S3 R3 W3	S3 R3 W3	S2 R2 W3	Off Air
2955 kcs	S3 R4 W2	S3 R3 W3	-- -- --	Off Air	
4785 kcs	S3 R3 W2	S4 R4 W2	S3 R3 W2	S2 R2 W1	S1 R1 W2
8260 kcs	-- -- --	-- -- --	-- -- --	S2 R2 W3	S3 R3 W3
8310 kcs	S4 R5 W1	S4 R4 W1	S4 R5 W1	S4 R4 W2	S3 R4 W2
8495 kcs	S2 R2 W2	S1 R1 W3	S2 R2 W3	S3 R3 W3	S4 R3 W2
8545 kcs	-- -- --	-- -- --	-- -- --	-- -- --	S3 R3 W2
12285 kcs	-- -- --	-- -- --	-- -- --	-- -- --	S2 R2 W2

<u>Frequency</u>	<u>0300-0500</u>	<u>0500-0700</u>	<u>0700-0900</u>	<u>0900-1100</u>
2055 kcs	Off Air			
2807.5 kcs	Off Air			
2955 kcs	Off Air			
4785 kcs	S2 R2 W2	S4 R4 W2	S5 R5 W2	S5 R5 W2
8260 kcs	S3 R3 W3	S4 R4 W2	S5 R5 W2	S5 R5 W1
8310 kcs	S4 R5 W1	S4 R5 W1	S5 R5 W0	S5 R5 W0
8495 kcs	S5 R5 W1	S5 R5 W1	S5 R5 W1	-- -- --
8545 kcs	S4 R4 W2	S5 R5 W2	S5 R5 W1	S5 R5 W1
12285 kcs	S3 R3 W2	S4 R4 W2	S5 R5 W1	-- -- --



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c. Strong atmospheric interference was present on all frequencies during a large portion of the mission, due mainly to the fact that thunderheads were encountered enroute to the target area. No reports of attempted enemy jamming were logged, however strong interference was encountered by the 468th Group on 8260 kcs from a station using call sign "LDO". This station was continually sending his call sign interspersed with "Q" signals. This matter has been referred to the theater with a request that frequency be cleared or a new eight megacyclo frequency assigned.

5. The following statistical data was compiled regarding the use of Radio Aids to navigation; All distances are 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>	<u>Average Track</u>
Kharagpur (GK)	16	280	500	340°
Chakulia (LF)	10	350	600	
Barrackpore (GM)	5	200	500	360°
Dudhkundi (FN)	4	75	100	260°
Piardoba (ML)	7	340	400	335°
Chittagong (NR)	3	325	450	347°

b. Radio Ranges:

<u>Location</u>	<u>No. of A/C Reporting</u>	<u>Average Initial Contact</u>	<u>Extreme Initial Contact</u>	<u>Average Track</u>
Barrackpore (GM)	5	300	620	345°
Kharagpur (GK)	1	500	500	360°

c. The following D/F facilities were utilized:

<u>Station</u>	<u>Frequency</u>	<u>No. of Requests</u>	<u>Class Bearing Give</u>		
			<u>I</u>	<u>II</u>	<u>III</u>
4E3 (444th Gp)	8495 kcs	4	2	2	
3S8 (468th Gp)	8260 kcs	2	1	1	

d. No Air-to-air homing was used on this mission.

6. There were no violations of cryptographic or transmission security logged.

7. Malfunctions of Equipment:

a. 40th Group:

- (1) A/C 455, 5233, and 757 broken lead in on Compass antenna. Replaced by using whip antenna.
- (2) A/C 3407 command transmitter continually blowing fuses. Used liaison transmitter. Cause undetermined.



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b. 444th Group:

- (1) A/C 496 broken compass whip antenna.
- (2) A/C 580 pilot's microphone switch shorted out. Repaired in flight by using cord CD-318.
- (3) A/C 462 Short in radio compass junction box. Command antenna shot off. Not repairable in flight.
- (4) A/C 533 low frequency loading coil shorted out. Not repairable in flight.

c. 462nd Group:

- (1) A/C 454 liaison antenna broken after two hours flight. Trailing wire inoperative and compass antenna broke due to icing.
- (2) A/C 230 antenna compass lead in broken, interphone out.
- (3) A/C 838 D.C. relay fuse in radio compass relay continually blew out when switch on control box was in antenna position. Cause undetermined.

d. 468th Group:

- (1) A/C 546 bombardier's interphone foot pedal disconnected. Repaired in flight.
- (2) A/C 4487 liaison fixed antenna broken. Used trailing wire.
- (3) A/C 346 and 714 radio compass sense antenna broken. Used jumper to trailing wire.
- (4) A/C 445 liaison fixed antenna and radio compass sense antenna broken. Trailing wire antenna inoperative.



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HEADQUARTERS  
XX BOMBER COMMAND  
APO 493

ANNEX NO. 1

TO

CONSOLIDATED  
SPECIALIST MISSION  
REPORT OF

XX BOMBER COMMAND COMMUNICATIONS (RADIO) OFFICER

Date Prepared: 17 January 1945. Field Orders No: 27  
Date of Mission: 11 January 1945.

1. The following is a time study involving message handling time of the practice message transmitted on mission number twenty-seven (27).

2. The message consisting of five (5) groups, enciphered in Rekoh Code (CD 0251) was filed at the command post at 0130Z and was transmitted to all groups. All groups receipted for this message at 0132Z.

a. A time study showing time of receipt, means by which message was received, average group time for those aircraft receiving message, total elapsed time, and number of aircraft receiving message follows:

(1) 40th Group:

<u>A/C Call Sign</u>	<u>How Received</u>	<u>Time of Receipt</u>	<u>Remarks</u>
752	Intercept	0145Z	
757	"	0146Z	
3407	"	0136Z	
4587	"	0135Z	
4503	"	0134Z	
5233	"	0135Z	
3394	"	0142Z	
374	Relay	0150Z	
455	"	0203Z	
4579	Not received		No reason given

Time of receipt by 1st A/C: 0134Z  
Time of receipt by last A/C: 0203Z  
Total Elapsed Time: 29 minutes.  
Average time: 8.33 minutes.

(2) 444th Group. The message was first transmitted at 0135Z and repeated numerous times on three (3) frequencies until 0200Z. Due to inaccuracy of Group Communications Specialist Report it is impossible to make a time study of the handling of the practice message by this group. An extract of the Communications Specialists report is as follows: "Only two A/C receipted for the message. They were A/C 720 and 462. We did not call the A/C again because at this time we could hear a lot of

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interplane traffic. The A/C were penetrating a front and trying to achieve a rendezvous, so in order to not block their net we did not transmit again or ask for anymore receipts".

(3) 462nd Group:

<u>A/C Call Sign</u>	<u>How Received</u>	<u>Time Received</u>	<u>Remarks</u>
472	Intercept	0238Z	
801	"	0238Z	
838	"	0408Z	
475	"	0406Z	
463	"	0136Z	
800	"	0312Z	
540	"	0408Z	
454	Not Received		Malfunctions
230	" "		No reason given
480	" "		Malfunctions

Time of first transmission: 0136Z

Repeated numerous times on three frequencies.

Time of receipt by 1st A/C: 0136Z  
Time of receipt by last A/C: 0408Z  
Elapsed time: 2 Hours 12 Minutes.  
Average Time: 87.71 Minutes.

(4) 468th Group:

<u>A/C Call Sign</u>	<u>How Received</u>	<u>Time Received</u>	<u>Remarks</u>
734	Intercept	0554Z	
678	"	0135Z	
546	"	0550Z	
691	"	0553Z	
464	"	0140Z	
714	"	0210Z	
486	"	0140Z	
445	"	0140Z	
469	"	0140Z	
487	Not Received		Lost fixed liaison antenna. Pilot would not give radio operator permission to use trailing wire. Repeated Numerous Times of two frequencies.

Time of first transmission: 0135Z

Time of receipt by 1st A/C: 0135Z  
Time of Receipt by last A/C: 0554Z  
Total Elapsed Time: 4 Hous 19 Minutes.  
Average Time: 91.88 Minutes.



S E C R E T

ANNEX

F

RADAR

I - Radar Information

Section A - Navigation and Bombing  
Section B - Scope Photography  
Section C - Serviceability

II - Radar Tables

Table A - Bombing Data  
Table B - Photographic Results  
Table C - Navigational Ranges  
Table D - Serviceability  
Table E - Malfunctions

\*\*\*\*\*  
\* Prepared by: \*  
\* \* \* \* \*  
\* Radar Section \*  
\* \* \* \* \*  
\* XX Bomber Command \*  
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S E C R E T



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HEADQUARTERS  
XX BOMBER COMMAND  
APO 493

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.Auth: CG XX BC  
.Initials WJ  
.Date 15 Jan 45  
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CONSOLIDATED  
SPECIALIST MISSION  
REPORT OF

XX BOMBER COMMAND RADAR OFFICER

Date Prepared 15 January 1945 Field Orders No. 27  
Date of Mission 11 January 1945

I - Radar Information

A - Navigation and Bombing

1. The primary visual target, Floating Drydock, Singapore, and the primary radar target, Kings Drydock, Singapore, were designated in this mission. The primary radar target was selected so that it lay roughly along the line of the bombing run for the visual target. In event that the visual target could not be bombed visually, the bombing run was to be continued to the primary radar target.

2. Nine (9) aircraft or twenty-three (23) per cent of all aircraft bombing, bombed by radar. Eight (8) of these aircraft bombed the primary radar target and one (1) bombed the primary visual target. The results of radar bombing by one aircraft were roughly five (5) miles west of the target. Results of other radar bombing are unknown.

3. Range was reduced somewhat by strong returns from thunder heads. Radar operators reported it was necessary in some cases to cut the gain down in order to keep these signals at a minimum. This, consequently, reduced the range at which the initial and assembly points and target were identified.

B - Scope Photography

1. Twenty-three (23) radar scope cameras were installed, with thirteen (13) cameras completing the mission. There were nine (9) sets of photographs returned and two (2) useable sets tracing the bombing run.

2. Some difficulty was encountered in obtaining good radar scope photographs. System and camera malfunctions were **as usual**; however, incorrect setting of the camera scope intensity is believed to be the main source of difficulty.

C - Serviceability

1. Malfunctions were of the usual type. Eighty-seven (87) per cent of the radar systems were operative over the target, which was about average operation.

2. Interference of the usual type from other airborne radar systems was the only interference encountered.

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By WJ NARA Date 11/17/05



S E C R E T

II - Radar Tables

A - Bombing Data

A/C Bombing	40
A/C Bombing Singapore, Visual	17
A/C Bombing Singapore, Radar	8
A/C Bombing Georgetown, Penang, Visual	8
A/C Bombing Mergui Harbor, Burma, Visual	4
A/C Bombing Targets of Opportunity, Visual	3
Total Radar Bombing	8
Percentage Radar Bombing	20

B - Photographic Results

DATA	40th Gp		444th Gp		462nd Gp		468th Gp		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
No. Cameras Installed	4	-	3	-	6	-	10	-	23	-
K-35 Cameras	0	-	0	-	4	-	6	-	10	-
K-24 Cameras	4	-	3	-	2	-	4	-	13	-
No Cameras in Abort, Early Return & Missing Aircraft *	0	0	1	33	0	0	5	50	6	26
No. Cameras Completing Mission *	4	100	2	67	6	100	5	50	17	74
No. Cameras in Radar & Camera Malfunction Aircraft #	1	25	0	0	1	17	2	40	4	27
Sets of Pictures Returned #	2(a)	50	1	50	3(b)	50	3	60	9	53
Number of Negatives Returned	16	-	29	-	19	-	45	-	109	-
Sets of Pictures Useable **	2	100	1	100	2	67	1	33	6	66
Sets of Pictures Tracing Bomb Run **	1	50	1	100	0	0	0	0	2	22

- (a) A/C 3407 had insufficient intensity.
- (b) Pictures from A/C 454 and 472 not received to date.
- \* Percentage based on cameras installed.
- # Percentage based on cameras completing mission.
- \*\* Percentage based on sets of pictures returned.



S E C R E T

C - Navigational Ranges

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	Total Number Reporting	Weighted Average Range
Mapping Range	9	51	11	46	11	50	10	40	41	46
Mooring Dock, Singapore (P.V.T.)	1	15	4	35	5	27	1	20	11	28
Mooring Dock, Singapore (P.R.T.)	-	-	2	15	-	-	-	-	2	15
Georgetown (S.T.)	-	-	3	33	3	35	4	25	10	30
Mergui Island	2	27	2	35	1	20	-	-	5	29
St. on Malay Coast (IP)	-	-	5	20	1	35	-	-	6	32
Stribaut Island (A.P.)	2	43	-	-	1	15	-	-	3	33
Andaman Island	-	-	-	-	1	80	-	-	1	80
Van Kahn Bay	1	40	2	35	-	-	-	-	3	37
Chan Island	-	-	-	-	-	-	2	45	2	45
Great Coco Island	2	27	6	40	2	30	2	20	12	33
Manakan Road	-	-	2	35	-	-	-	-	2	35
Lake Tale	1	50	-	-	2	60	-	-	3	57
Little Coco Island	-	-	2	23	-	-	-	-	2	23
Malay Coast	1	40	2	45	4	53	8	37	15	43
Preodam Island	1	30	5	46	2	48	3	32	9	39
Agoda Point	-	-	-	-	1	80	-	-	1	80
Penang	-	-	1	59	-	-	2	20	3	33
Reparis Island	4	46	8	35	5	41	10	29	27	35
Rintian Island	-	-	3	30	1	16	-	-	4	27
Bucket Island	-	-	2	58	-	-	-	-	2	58
St. Mathew's Island	2	47	2	48	1	40	2	30	7	42
Singapore Area	1	45	3	32	1	35	-	-	5	35
Sullivan Island	-	-	3	37	-	-	1	55	4	42
Navoy Point	-	-	1	50	-	-	-	-	1	50
Tomian Island	-	-	3	32	-	-	-	-	3	32
Tua Island	-	-	2	48	-	-	-	-	2	48
Torres Island	-	-	-	-	1	45	1	45	2	45

P.V.T. - Primary Visual Target.  
P.R.T. - Primary Radar Target.



S E C R E T

D - Serviceability

ATA	40th Gp		444th Gp		462nd Gp		468th Gp		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
/C Airborne	10	-	12	-	12	-	13	-	47	-
/C Reporting	10	-	11	-	11	-	12	-	44	-
PQ-13 Oper. at T.O.*	10	100	11	100	11	100	11	92	43	98
/C Bombing	10	-	8	-	12	-	10	-	40	-
/C Reporting Bombing*	10	100	8	73	11	100	10	83	39	89
PQ-13 Operative over Target #	9	90	8	100	8	73	9	90	34	87
PQ-13 Unrep. Failures#										
Completely Inoper.	1	10	0	0	2(a)	18	2	20	5	13
Partially Inoper.	0	0	1	12	1	9	1	10	3	8
Total	1	10	1	12	3	27	3	30	8	21
PQ-13 Rep. in Flt.	1	-	0	-	3	-	0	-	4	-
CR-718	0	-	0	-	0	-	2	-	2	-
CR-695	0	-	0	-	0	-	1	-	1	-

(a) One of those inoperative was repaired after target.

E - Malfunctions

	40th Gp	444th Gp	462nd Gp	468th Gp	Total
<u>Take-Off</u>					
Completely Inoperative					
Transmitter	-	-	-	1	1
Total	-	-	-	1	1
<u>Between Take-Off &amp; Target</u>					
Completely Inoperative					
Transmitter	1(a)	-	1(b)	-	2
RA-88	-	-	1	-	1
Pressurization	-	-	1	-	1
Total Completely Inoperat.	1	-	3	-	4
Partially Inoperative					
Azimuth Stabilization	-	-	1	-	1
A.F.C.	-	1	-	-	1
Transmitter kicked off					
on 50 & 100 mile Ranges	-	-	-	1	1
Total Partially Inoperative	-	1	1	1	3
Total Partial & Complete	1	1	4	1	7
<u>Between Target &amp; Landing</u>					
Completely Inoperative					
Inverter	-	-	-	1	1
Total Completely Inoper.	-	-	-	1	1
<u>Repaired in Flight</u>					
Changed Inverters	1	-	1	-	2
Adjusted Voltage in RA-88	-	-	1	-	1
Adjusted AFC Voltage and					
RA-88	-	-	1(b)	-	1
Fuse 1112 Replaced	-	1	-	-	1
Total	1	1	3	-	5
<u>Summary</u>					
Completely Inoperative	1	-	3	2	6
Partially Inoperative	-	1	1	1	3
Repaired in Flight	1	1	3	-	5
<u>Auxiliary Equipment</u>					
SCR-718	-	-	-	2(c)	2
SCR-695	-	-	-	1	1

(a) Transmitter was kicking off on bomb run - O.K. later.

(b) Set inoperative over target - repaired later.

(c) Inverter bad in one case.



S E C R E T

ANNEX

G

RCM INFORMATION

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

S E C R E T

DECLASSIFIED  
Authority *NND 160063*  
By *sw* NARA Date *11/17/05*



S E C R E T

SECRET  
Auth: Dep Com 20th AF  
Initials: 11111  
Date: 26 Jan. 45

TWENTIETH AIR FORCE  
Office of Deputy Commander, IB and C  
APO 493

26 January 1945

SUBJECT: RCM Report - Combat Mission No. 27, Singapore,  
11 January 45 -- Daylight.

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

A. General

Six RCM search aircraft each with one RCM Observer, participated in this mission. Scheduled search was for Early Warning Radar to and from the target and for Radar Fire Control Equipment in the target area. Actual target area search was incomplete as only one RCM aircraft reached the primary target, the other search aircraft bombing the secondary target and targets of opportunity.

B. Results

There was only one search aircraft equipped with a D/F antenna and the results obtained with this antenna were nullified due to navigational difficulties. Therefore, the radar stations will be identified by comparing intercept characteristics obtained on this mission with known characteristics of radar sites obtained on previous missions. Such analysis is subject to error and only when the search aircraft are equipped with D/F antenna will dependable information from this area be obtained.

C. Radar Intercepts

(A) Andaman Island Area: Two Mk 1 Model 1 radar sites were intercepted in this area. A 96.2/830/8.4 intercept probably originated from the Port Blair radar site. Another intercept at 100/840/8 was D/F'ed to the Port Blair area. These radar sites were intercepted enroute to and from the target area.

(B) Mergui Area:

1. 197/880/12: Similar to the new frequency of the

-1-

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radar station D/F'ed to this area on Mission 18.

2. 202/ / : The reported frequency of the radar site located at Moulmein. The signal was weak and rotating at 1 RPM. It is possible that this intercept is a harmonic of a Mk 1 Model 1 located on the Malay Peninsula.

(3) Malay Peninsula:

1. Panang (Georgetown). A 100/500/17 intercept, which probably originated from Panang, was logged by the search aircraft on the east side of the Malay Peninsula. One search aircraft which was monitoring this station noticed that the signal gradually increased from 97 Mc. until it became stable at 100 Mc. This search aircraft lost an engine so decided to bomb Georgetown. The radar was tracking the single aircraft into the target and six minutes prior to bombs away the radar station abruptly went off the air. As the aircraft passed over Georgetown, no airborne fighters were to be seen. Crew members of the Search aircraft observed fighter planes on airfields below preparing to take off. This would indicate that the radar warning was not used to alert the fighters as would normally be expected. Either bad communications are at fault or else the radar information is not relied upon. Eight minutes after the search aircraft left Georgetown area, the radar station abruptly came on and continued to track the aircraft to 98°20'N 7°50'E.

2. 79/500/30: A very strong signal and extremely long range. Intercepted from 100°45'E 3°30'N to 98°E 7° 40'N. This signal was also intercepted on the east coast of the Malay Peninsula. Area of intercept places the radar near Georgetown but the signal was received equally well on either left or right antenna so it is possible that this radar may be located on Sumatra. Although the signal characteristics are similar to the Palembang Radar, the distance is too great to be the same radar site.

3. 97/500/11: This intercept was made while crossing the Malay Peninsula enroute to the target. Logged from 99°E 9°45'N to 100°15'E 8°N. Strongest from the left side of the aircraft and may be located on Samui Island (100°E 9°30'N).

4. It is possible that a Mk 1 Model 1 Early Warning Net is in operation on the west coast of the Malay Peninsula. Areas of intercepts suggests the following net.

Samui Island	100°E 9°30'N	97/500/11
Songkla	100°35'E 7°10'N	98.5/500/18
Kuala Besar	102°10'E 6°15'N	99.5/500/25
Pekan	103°30'E 3°30'N	100/540/35

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By *sw* NARA Date *11/17/05*



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(D) Singapore Area:

1. The microwave band was monitored in the target area and no radar intercepts were reported. Immediately after leaving Singapore area the following signals were intercepted:

200/375/18 PRF suggests a harmonic of a Mk 1 Model 1  
104/580/22  
100/510/40  
98.5/1100/18  
163/1000/14 Heard on east coast Malay Peninsula  
102/388/50

2. It is possible that some of these radar sites may be located in the Roepat or Bengkalis area in Sumatra.

3. Simpang 100°35'E 4°10'N. No radar intercepts were logged while search aircraft were in this area.

4. 96.7/467/11.2: A weak intercept made enroute home. Possible located on Northwest tip of Sumatra. From 98°E 7°50'N to 95°E 11°N.

(E) Rangoon Area:

No radar intercepts were logged enroute to the target. However, the two radar sites known to be located in Rangoon were intercepted enroute home.

69/500/40  
80/500/45

One search aircraft reports that possible two 80 Mc. Radar sites are in operation in this area, the other radar site having a slightly higher PRF; 80/525/45. This may account for the difficulty in obtaining good D/F cuts on this station.

D. Enemy Countermeasures

1. Strong atmospheric interference was present during a large portion of the mission, especially when the aircraft were in the thunder head just before entering the target area.

2. Occasional interference in the form of "Q" signals and "PX" messages from AACCS Stations and other allied stations was reported. No intentional interference was reported.

E. Equipment

1. One O-10/APA-6 cut out after four hours of operation and was replaced by a spare unit.

2. The AN/APA-11 Pulse Analyzer was flown on this mission

-3-

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S E C R E T

and operated in a satisfactory manner. RCM observers reported the equipment became quite hot and was allowed to cool at regular intervals. This was only a precautionary measure however, and the equipment did not fail at any time.

For the Deputy Commander:

*Leo I. Herman*

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

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By *sw* NARA Date *11/17/05*



S E C R E T

ANNEX

H

CENTRAL STATION FIRE CONTROL AND GUNNERY

\* \* \* \* \*  
\* Prepared by: \*  
\* \* \* \* \*  
\* Staff Gunnery Officer \*  
\* \* \* \* \*  
\* XI Bomber Command \*  
\* \* \* \* \*

S E C R E T

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Authority *NND 160063*  
By *sw* NARA Date *11/17/05*



SECRET  
HEADQUARTERS  
XX BOMBER COMMAND  
APO 493

CONSOLIDATED  
SPECIALIST MISSION REPORT  
OF STAFF GUNNERY OFFICER

SECRET  
Auth: CG, XX BC  
Initials: W. J. M.  
Date: 15 Jan '45

Date Prepared: 14 January 1945

Field Order No, 27

Date of Mission: 11 Jan 45

1. On the mission directed by Field Order No. 27 fighter attacks were more numerous than on previous missions to this target. The enemy pilots were reported to be less skillful or determined than those met over China or Japan. There were a considerable number of coordinated attacks. Our airplanes bombing individually offered a direct challenge to enemy fighters as each B-29 was dependent upon its own guns and gunners. There were no new or unusual tactics noted as the enemy still favors the high frontal approach.

2. The mission is considered as very satisfactory in regards to gunnery.

3. The following statistical data is submitted:

	40th	444th	462nd	468th
Ammunition used test firing	650	1226	1230	810
Ammunition used in combat	4454	3166	6965	4905
Malfunctions of CFC equipment	1	1	0	1
Total turrets on mission	50	55	45	50
Malfunctions of Cal. .50 M6's	1	2	2	2
Total machine guns on mission	100	110	90	100
Total airplanes (included in report)	10	11	9	10
Total percent malfunctions all Groups CFC 1.5% Cal. .50 M6's 1.7%				

	DESTROYED	PROBABLY DESTROYED	DAMAGED
Claims by our gunners	6	1	17
Our losses from guns of enemy fighters.	1	0	7

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By sw NARA Date 11/17/05



S E C R E T

ANNEX

I

CAMERAS AND PHOTOGRAPHS

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Authority *NND 160063*  
By *sw* NARA Date *11/17/05*



CAMERAS AND PHOTOGRAPHS

Mission No. 27  
11 January 1945

	40th			44th			462nd				468th			Total			
	K18	K20	K22	K18	K20	K22	K17	K18	K20	K22	K18	K20	K22	K17	K18	K20	K22
No. cameras airborne	3	9	4	3	5	4	3	3	5	4	5	8	6	3	14	27	18
No. in A/C failing to bomb any tgt.	0	0	0	2	3	2	0	0	0	0	2	2	0	0	4	5	2
No. in A/C bombing tgts.	3	9	4	1	2	2	3	3	5	4	3	6	6	3	10	22	16
No. photographing tgts.	3-a	b	3	1	2	2	0	2-e	3	4	2-h	5-i	3	0	8	j	12
Failure to photograph-mechanical	0	b	0	0	0	0	0	0	0	0	0	0	2	0	0	j	2
Failure to photograph-other	0	b	1-c	0	0	0	3-d	1-f	2-g	0	1	1	1	3	2	j	2
No. usable negatives	24	b	19	2	0	15	b	18	0	20	13	88	26	b	57	j	80

- a - One aircraft photographed ST with 8 usable negatives resulting.
- b - Not available.
- c - Camera doors not opened
- d - Camera doors closed on 1 camera; 2 cameras jettisoned by aircraft in trouble.
- e - One aircraft photographed ST with 11 usable negatives resulting.
- f - Started camera too soon over ST and ran out of film.
- g - Cameras not used.
- h - Secondary target.
- i - 4 A/C photographed secondary target with 67 usable negatives resulting.
- j - Incomplete.

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I-I-1

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S E C R E T

ANNEX

J

AIRCRAFT LOSSES AND DAMAGE

S E C R E T

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Authority *NND 160063*  
By *sw* NARA Date *11/17/05*



SECRET

I - AIRCRAFT LOSSES AND DAMAGE

Mission No. 27

11 January 1945

A. Aircraft Losses

1. Known Battle Losses: None.
2. Known Operational Losses: None.
3. Missing Aircraft:

a. A/C 226 (444th): This aircraft was last heard from on voice at 0145Z near the initial point. Nothing definite has been established regarding the fate of this aircraft. However, one B-29 on course just off the coast of India was seen jettisoning its equipment. This ties in with a British report that an aircraft near the coast dropped out of the radar scope that was tracking it. It is thought that this may have been A/C 226, but a search has revealed no signs of the missing aircraft.

b. A/C 704 (468th): This aircraft was last heard from at 0203Z when it gave a "bombs away" message from over the PT. No definite facts regarding its fate are available. It is possible that this aircraft may have been lost over the target (an aircraft of the 444th Group reported from 20 miles from the PT seeing an unidentified aircraft explode over the target at 0211Z) but it is more probable that A/C 704 is the plane that was last seen just off the coast of the Malay Peninsula with 2 engines probably feathered. It was last seen at 15,000 feet and losing 500 feet a minute. Two aircraft of the 444th Group headed for China Bay tried to contact the plane on the 468th Group frequency with no success.

B. Aircraft Damage

For details of battle and operational damage by aircraft, see Consolidated Mission Statistical Summary, Annex M, Table V.

J-I-1

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By *sw* NARA Date *11/17/05*



S E C R E T

ANNEX

K

FUNCTIONING OF EQUIPMENT

- I - Functioning of Equipment
- II - Performance Data \*

\* Prepared by Staff Flight Engineer

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Authority *NND 160063*  
By *sw* NARA Date *11/17/05*



SECRET

I - FUNCTIONING OF EQUIPMENT

Mission No. 27

11 January 1945

1. A/C airborne 47
2. Less A/C failing to bomb the primary target - mechanical 9
  - a. Bombed secondary target (3):
    - (1) A/C 757 (40th) - all 4 engines running hot.
    - (2) A/C 463 (462nd) - #1 engine would not run on auto lean.
    - (3) A/C 838 (462nd) - radar out.
  - b. Bombed last resort target (2):
    - (1) A/C 503 (40th) - at 9000 feet pilot could only get 19" Hg from #3 engine.
    - (2) A/C 233 (40th) - oil leak #4 engine.
  - c. Bombed target of opportunity (2):
    - (1) A/C 378 (444th) - engine failure.
    - (2) A/C 469 (468th) - #4 engine running rough.
  - d. Bombs brought back (2):
    - (1) A/C 451 (444th) - fuel transfer system malfunction.
    - (2) A/C 417 (468th) - #2 engine back firing.
3. Less A/C failing to bomb the primary target - other reasons 13
  - a. Weather (8):
    - (1) 444th Group: A/C 202 - jettisoned bombs.
    - (2) 462nd Group: A/C 454 - bombed secondary.
    - (3) 468th Group:
      - (a) A/C 486 - bombed secondary.
      - (b) A/C 445 - bombed secondary.
      - (c) A/C 714 - bombed secondary.
      - (d) A/C 487 - jettisoned bombs.
      - (e) A/C 691 - bombed opportunity target.
      - (f) A/C 464 - bombed secondary.
  - b. Personnel error (3):
    - (1) A/C 422 (444th) - made 2 runs over PT and failed to identify target on second run - later jettisoned bombs.
    - (2) A/C 230 (462nd) - bomb release switch was off - later bombed last resort target.
    - (3) A/C 471 (468th) - #17 plug missing from #4 engine in first flight after plug change - brought bombs back.
  - c. Other reasons (2):
    - (1) A/C 446 (444th) - low on gas - bombed last resort target.
    - (2) A/C 226 (444th) - missing - disposition of bombs unknown.
4. A/C bombing primary target 25

~~K-I-4~~

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Authority *NND 160063*  
By *sw* NARA Date *11/17/05*



SECRET

SECRET

Auth: CG XX BC

Initials: JW

Date: 22 Jan 45

HEADQUARTERS  
XX BOMBER COMMAND  
APO 493

CONSOLIDATED  
SPECIALIST MISSION REPORT  
OF STAFF FLIGHT ENGINEER

Date Prepared: 22 January 1945.

Field Order Number 27

Date of Mission: 11 Jan 45

1. The attached table contains the summary of the performance of those aircraft which bombed the primary target and returned to their own bases.

2. The cruise control was good on this mission. The performance of the airplanes was as anticipated.

Attached: 1 Table.

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Authority NND 160063  
By sw NARA Date 11/17/05



SECRET

SUMMARY OF ALL GROUPS  
F. O. #27

Group		Overall	40th	444th	462nd	468th
No. of Aircraft		23	7	7	5	4
Total time		16:55	17:03	16:53	16:46	15:57
Time to target		8:39	8:41	8:50	8:46	8:08
Fuel Burned	Ave.	7230	7325	7290	7115	7100
	Max.	7520	7500	7520	7400	7200
	Min.	7000	7100	7035	6900	7000
Fuel Carried	Ave.	7900	7900	7900	7900	7900
	Max.	7900	7900	7900	7900	7900
	Min.	7900	7900	7900	7900	7900
Burnable Reserve	Ave.	670	575	610	765	800
	Max.	1000	300	865	1000	900
	Min.	700	400	380	500	700
**Air Miles		3855	3810	3894	3815	3930
Ground Miles		3675	3830	3750	3352	3690
**Gal/Air Miles		1.87	1.92	1.87	1.86	1.80
***Bombing Alt.		21,700	22,400	20,500	21,700	22,700
Starting Gross Weight	Ave.	134,100	133,600	134,246	134,650	134,400
	Max.	135,356	134,600	135,356	135,300	135,080
	Min.	132,023	132,231	132,023	134,156	134,172
Weight of Bombs	Ave.	3770	4080	3350	4080	4080
	Max.	4080	4080	4080	4080	4080
	Min.	3060	4080	3060	4080	4080
No of Bombs	M-44	3.8	4	3.3	4	4

- \* Aircraft which returned to their briefed base and for which logs were available.
- \*\* Accuracy of air miles is questionable due to difficulty in determination.
- \*\*\* Pressure altitude.

SECRET

DECLASSIFIED  
Authority: *ND 100003*  
By: *SP-1 NARA* Date: *11/17/85*



S E C R E T

ANNEX

L

TARGET DAMAGE ASSESSMENT

\*\*\*\*\*  
\* Prepared by: \*  
\* \* \* \* \*  
\* Target Intelligence Unit \*  
\* \* \* \* \*  
\* XX Bomber Command \*  
\* \* \* \* \*  
\*\*\*\*\*

S E C R E T

DECLASSIFIED  
Authority *NND 160063*  
By *sw* NARA Date *11/17/05*



C O N F I D E N T I A L

HEADQUARTERS  
XX BOMBER COMMAND  
Intelligence Section  
APO 493

23 January 1945

DAMAGE ASSESSMENT REPORT NO. 36

TARGET: Admiralty Floating Dock No. IX, Singapore Naval Base,  
Singapore, Malaya. (01° 28'N - 103° 51'E).

GENERAL STATEMENT:

This report relates to an attack by 16 aircraft of the XX Bomber Command on 11 January 1945, Mission No. 27. A total of 56 1000# GP bombs were dropped between 0150Z hours and 0215Z hours. The attack was carried out by individual aircraft in all cases except one which involved a 2 plane formation. Weather was categorized as 2/10 to 3/10 rapidly drifting altostratus.

Six sets of strike photos were obtained only 2 of which show bomb impacts, the remainder of the photos being badly obscured by cloud. A total of 8 bursts are visible on the 2 sets of strike photos, all in the vicinity of the floating drydock, with the nearest bomb being approximately 250' away.

Post-strike photos obtained on 14 January by the 468th Bomb Group show the floating drydock intact and undamaged. No new damage was identified to the Naval Base.

The large naval drydock attacked on 5 November 1944, is still seen to be flooded and the sliding caisson gate has been removed and is now moored inside the dock against the west bank. The engines aft vessel which occupied the dock and which received stern damage as a result of the first attack, has been towed into Johore Strait and is anchored approximately one mile east of the base.

An atago Class heavy cruiser (656') with stern damage is anchored just north of the base. A Mogami Class heavy cruiser with about 70' of the stern blown off is anchored several miles west of the base. Presumably both of these cruisers were damaged by recent naval action in the vicinity of the Phillipines.

White smoke generators were active in an attempt to screen the floating dock as well as the naval drydock. In the case of the former, small craft were used which cruised about upwind of the dock. Generators situated above the banks of the dock were used for the attempted screening in the case of the Naval Dock. Judging from the few strike photos available, no serious difficulty of recognition is thought to have resulted from the quantity of smoke laid down. However, this smoke appears to be somewhat more persistent than any white smoke heretofore used and it is possible that by using larger numbers of generators, local targets might be effectively screened. This type of generator appears unsuitable for screening of large areas in contrast to those generators used by the Japanese so effectively at Mukden, Manchuria.

C O N F I D E N T I A L

DECLASSIFIED

Authority *NND 160003*  
By *sw* NARA Date *11/17/05*



C O N F I D E N T I A L

REFERENCES: (1) XX Bomber Command D.A. Report No. 19.

WEIGHT OF ATTACK: 16 Aircraft  
56 1000# GP

PHOTOGRAPHY: (1) Strike Photos, 5MR27, 11 January 1945, quality  
and scale variable.  
(2) XX Bomber Command Mission 5MR6, 14 January 1945.

PREVIOUS PHOTO COVER: (1) XX Bomber Command Mission 5MR3, 8 Janu-  
ary 1945, and 5MR4, 10 January 1945.

ANNEXES: (1) Annotated Photo and Bomb Fall Plot.

DETAILS OF DAMAGE: None.

FRANK L. SCOTT, JR  
Colonel, Air Corps  
Chief, Intelligence Section

PREPARED BY: TARGET UNIT  
INTELLIGENCE SECTION

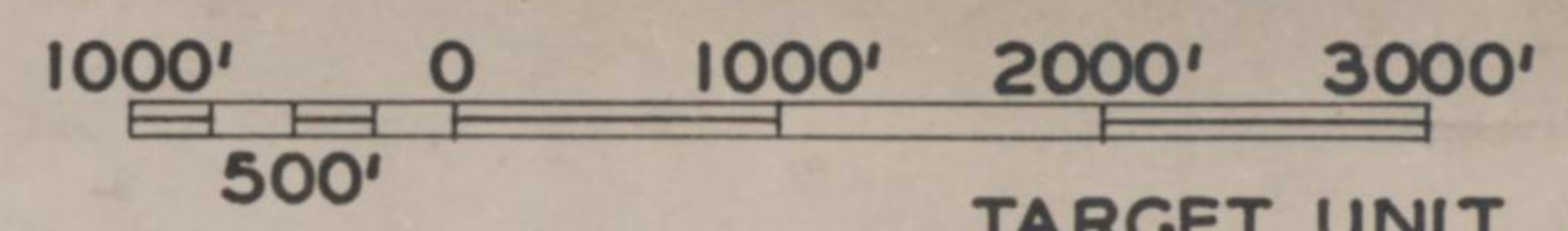
C O N F I D E N T I A L

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Authority *NND 160063*  
By *sw* NARA Date *11/17/05*



ANNEX I  
D.A. REPORT NO. 36  
ADMIRALTY FLOATING DOCK NO. IX  
MISSION 27



TARGET UNIT, XX B.C.  
CONFIDENTIAL



19.72

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Authority *NND 160063*  
By *sw* NARA Date *11/17/05*



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By *sw* NARA Date *11/17/05*



C O N F I D E N T I A L

HEADQUARTERS  
XX BOMBER COMMAND  
Intelligence Section  
APO 493

23 January 1945

DAMAGE ASSESSMENT REPORT NO. 37

TARGET: King's Drydock, Singapore, Malaya. (01° 16'N - 103° 49'E).

GENERAL STATEMENT:

This report relates to an attack by 9 aircraft of the XX Bomber Command on 11 January 1945, Mission 27. King's Dock was designated as the "Primary Radar Target" in the event weather prevented visual bombing of the "Primary Visual Target" which was the Admiralty Dock No IX, the large floating drydock in Johore Strait just off the Naval Base (see D.A. Report No. 36). Weather was classed generally as 2/10 - 3/10 rapidly drifting altostratus, but was sufficiently variable to force 9 aircraft to accomplish bombing by radar dropping a total of 35 1000# GP bombs. All of the attacks were carried out by individual aircraft between the hours of 0157Z and 0224Z. Four sets of strike photos were returned 2 of which shows bomb impacts, the remaining 2 being largely obscured by cloud. Four bombs fell in open ground approximately 1000' northwest of the Drydock near a road intersection. One of the roads was cratered and blast damage may have occurred to several nearby barracks-type buildings. Four bombs from another aircraft fell approximately 5.5 miles northwest of the Dock in a forrest reserve causing no damage.

The post-strike photos reveal the Dock intact and undamaged. No new damage resulting from this attack was identified within a radius of several miles of the dock.

White smoke generators were active during the attack in an attempt to screen warehouses along the wharf and the drydock proper. At no time, however, did the smoke generated offer any serious difficulty to either recognition nor bombing. The generators were again active during the post-strike reconnaissance mission and may be seen on the attached Annex.

REFERENCES: (1) Air Objective Folder No. 92.2.

WEIGHT OF ATTACK: 9 Aircraft  
35 1000# GP

PHOTOGRAPHY: (1) Strike Photos 5MB27, 11 January 1945.  
(2) XX Bomber Command Mission 5MR6, 14 January 1945.

PREVIOUS PHOTO COVER: (1) XX Bomber Command Mission 5MR3, 8 January 1945 and 5MR4, 10 January 1945.

ANNEXES: (1) Annotated Photo and Bomb Fall Plot.

DETAILS OF DAMAGE: None.

*Frank L. Scott, Jr.*  
FRANK L. SCOTT, JR  
Colonel, Air Corps  
Chief, Intelligence Section

C O N F I D E N T I A L

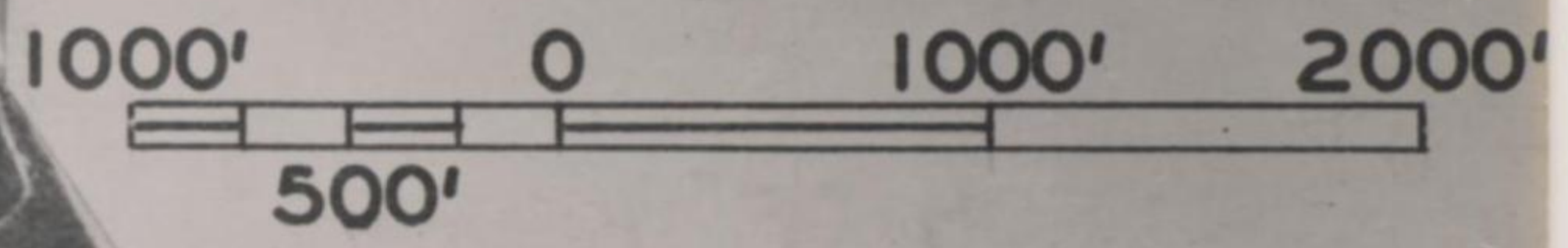
PREPARED BY: TARGET UNIT  
INTELLIGENCE SECTION -1-

DECLASSIFIED

Authority *NND 160003*  
By *sw* NARA Date *11/17/05*



ANNEX I  
D.A. REPORT NO. 37  
KING'S DOCK  
MISSION 27



TARGET UNIT, XX B.C.  
CONFIDENTIAL



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Authority *NND 160063*  
By *sw* NARA Date *11/17/05*



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By *sw* NARA Date *11/17/05*



C O N F I D E N T I A L

HEADQUARTERS  
XX BOMBER COMMAND  
Intelligence Section  
APO 493

20 January 1945

DAMAGE ASSESSMENT REPORT NO. 38

TARGET: Swettenham and Victoria Piers, Georgetown, Penang, Malay States. (05° 25'N - 100° 21'E).

GENERAL STATEMENT:

This report relates to damage resulting from a daylight attack by XX Bomber Command on 11 January 1945 under CAVU conditions. This was designated as a "Secondary Target" of the attack directed against the Singapore Naval Base and Harbor. "Last Resort Target" was designated as Mergui Harbor, Burma. A total of 9 aircraft attacked dropping 35 1000# GP bombs over the "Secondary Target". Bombing altitudes were from 15,000 ft to 24,000 ft. over the target from 0032Z to 0342Z. Plotting of bombs was from strike photos of good to excellent quality taken by six of the aircraft. Assessment of damage was accomplished from good quality reconnaissance photography obtained by 462nd Bomb Group on 11 January 1945.

Severe damage was inflicted on the Government Building, the northwest inside corner of which was the aiming point. Three large warehouses were partially damaged, one medium warehouse was severely damaged and two medium warehouses were partially damaged. Three small sheds were destroyed and one long shed damaged. Sixteen houses and shops were demolished as well as six shops being severely damaged.

Of a total of 336,000 sq. ft. of buildings hit, approximately 68,500 sq. ft. or 20% was completely destroyed, 41,500 sq. ft. or 13% were severely damaged and 9,500 sq. ft. or 3% were slightly damaged.

REFERENCES: (1) Inter-Service Topographical Department, B.R. 877J. Plans Nos. 40 and 40A.

WEIGHT OF ATTACK: 9 Aircraft  
35 1000# GP bombs.

PHOTOGRAPHY: (1) Strike Photos, 5MR27, 11 January 1945, scale varied, quality good to excellent.  
(2) XX Bomber Command Mission No. 5MR5, 11 January 1945, quality good, scale 1:10,200 approximately.

PREVIOUS PHOTO COVER: (1) 463th Bomb Group, XX Bomber Command Mission 4MR28, 7 December 1944, scale approximately 1:8,500, quality excellent.

ANNEXES: (1) Annotated Photo and Bomb Fall Plot.

REMARKS:

Numbers in parentheses preceding statements below refer to corresponding numbers on the attached annotated print, Annex 1.

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DETAILS OF DAMAGE:

- (1) Northwest corner of interior court of Government Office Building was aiming point. At least 3 direct hits were scored on the building completely demolishing an area of 11,200 sq. ft. Approximately 17% of this building has been demolished. The remaining portions of this building appear undamaged except possibly windows blown out by nearby explosions. The building is of sturdy wall bearing construction. The warehouse type building northeast and across the street from the Government Building has its two southern-most bays of 5,600 sq. ft. badly damaged by bombs which fell in the street. Roof sheeting has been disturbed on the third and fourth bay at the ridge. Street water main was broken as evidenced by water in street on reconnaissance photo.
- (2) Three hits scored on steel framed warehouse of 17,000 sq. ft. with sheet metal walls and roof. Warehouse badly damaged and approximately 75% destroyed. Warehouse to the east shows slight wall and roof damage at eaves.
- (3) 2,500 sq. ft. of north end of large warehouse destroyed. Corner of warehouse to the west shows 1000 sq. ft. of roof sheeting damaged. Center warehouse north of large warehouse has 1600 sq. ft. of southern end badly damaged.
- (4) Two buildings, 1500 sq. ft. and 2380 sq. ft., badly damaged. The small building on the east is 70% demolished and was camouflaged with netting.
- (5) 39,000 sq. ft. of domestic buildings and small shops completely destroyed. 3,000 sq. ft. badly damaged.
- (6) One building of 1,350 sq. ft. with camouflage netting destroyed and 1200 sq. ft. of a shed building destroyed in courtyard of Government Building.
- (7) 11,700 sq. ft. of buildings completely destroyed. 6,200 sq. ft. of buildings severely damaged and 4,000 sq. ft. of roof area damaged in group of shop and warehouse buildings.
- (8) 1,400 sq. ft. of warehouse damaged by hit on dock side.

FRANK L. SCOTT, JR  
Colonel, Air Corps  
Chief, Intelligence Section

PREPARED BY: TARGET UNIT  
INTELLIGENCE SECTION

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ANNEX I  
D. A. REPORT NO. 38  
GEORGETOWN - PENANG ISLAND  
MISSION 27

1000' 500' 0 1000' 2000' 3000'

TARGET UNIT, XX B. C.  
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S E C R E T

XX BOMBER COMMAND  
CONSOLIDATED MISSION STATISTICAL SUMMARY  
Mission Number Twenty Seven  
11 January 1945

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1-25-45 SR  
Date Initials

Table I and II - Aircraft Participating \*

Group	Mission No.	Field Order No.	** A/C Taking Off	Airborne A/C Failing to Bomb Designated Primary Target								Time Of First Takeoff	Time*** Of Latest Return	Average Time of Flight ***	
				Total No.	Percent	Reason					A/C Bombing Primary			Airborne A/C Not Bombing Primary	
						Mech.	Pers.	Wea.	Not in Form.	Misc.					Unknown
40th	27	27	10	3	30%	3					1731Z	1058Z	16:57	12:51	
444th	27	27	12	6	50%	2	1	1		1	1	1709Z	1050Z	16:49	13:09
462nd	27	27	12	4	33.3%	2	1	1				1715Z	1043Z	16:43	15:31
468th	27	27	13	9	69.2%	2	1	6				1746Z	1044Z	15:57	11:47
TOTAL	27	27	47	22	46.8%	9	3	8		1	1	1709Z	1058Z	16:43	12:51

\* Mission was run from Rear Area bases; Tables I and II consolidated because there was no Rear To Forward Area Movement.

\*\* Field Order #27 requires each group to have 12 aircraft airborne on mission. (See Table X)

\*\*\* Excludes A/C which landed at other fields.

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XX BOMBER COMMAND  
 CONSOLIDATED MISSION STATISTICAL SUMMARY  
 Mission Number Twenty Seven  
 11 January 1945

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Table III - Bombing Runs

Group	No. of A/C Bombing	Target Bombed	Time of Release		Altitude of Release		Visual Bombing		Radar Bombing		Blind Bombing	On the Leader		A/C Dropping On	
			Earliest	Latest	Highest	Lowest	A/C Sighting For R & D	Range	A/C Sighting For R & D	Range		Visual	Radar	A/FCE	Manual
40th	7	Singapore	0158Z	0224Z	23200	19000	3	2	2					5	2
	1	Georgetown	0224Z	0224Z	20100	20100			1					1	
	2	Mergui	2334Z	0031Z	19000	15000	2							2	
444th	6	Singapore	0155Z	0213Z	24000	18100	1		5					6	
	1	Mergui	0306Z	0306Z	24000	24000	1							1	
	1	Opportunity	0016Z	0016Z	15000	15000	1							1	
462nd	8	Singapore	0150Z	0203Z	26000	19000	7				1			7	1
	3	Georgetown	0125Z	0254Z	23000	15000	3							3	
	1	Mergui	0630Z	0630Z	10000	10000	1							1	
468th	*4	Singapore	0154Z	0215Z	23000	20000	2		2					3	1
	5	Georgetown	0032Z	0341Z	24000	20000	5							5	
	2	Opportunity	0148Z	0312Z	23000	17060	2							2	
TOTAL	*25	Singapore	0150Z	0224Z	26000	18100	13	2	9		1			21	4
	9	Georgetown	0032Z	0341Z	24000	15000	8		1					9	
	4	Mergui	2334Z	0630Z	24000	10000	4							4	
	3	Opportunity	0016Z	0312Z	23000	15000	3							3	

Primary Target - Singapore  
 Secondary Target - Georgetown  
 Last Resort Target - Mergui

\* Includes A/C 24546 which bombed Singapore and Georgetown.

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XX BOMBER COMMAND  
CONSOLIDATED MISSION STATISTICAL SUMMARY  
Mission Number Twenty Seven  
11 January 1945

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Table IV - Bomb Loading & Disposal

Group	* Type of Bombs	Bomb Loading on A/C Airborne in R. A.				On Targets				Bomb Disposal		
		Fusing		Average No. Loaded	Total Loaded	Singapore	Georgetown	Mergui	Oppor-tunity	Jettisoned	Returned	Unknown
		Nose	Tail									
40th	1000# GP	.1	.025	4.0	40	28	4	8				
444th	1000# GP	.1	.025	3.3	39	20		3	3	6	4	3
462nd	1000# GP	.1	.025	4.0	48	30	12	4		2		
468th	1000# GP	.1	.025	4.0	52	13	19		7	5	8	
TOTAL	1000# GP	.1	.025	3.8	179	91	35	15	10	13	12	3

\* 1000# GP - AN-M 65) Actual weight 1018.4 pounds.  
AN-M 44)

NOTE: Bomb weight information supplied by Ordnance Section, XX Bomber Command.

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XX BOMBER COMMAND  
CONSOLIDATED MISSION STATISTICAL SUMMARY  
Mission Number Two Seven  
11 January 1945

Table V - Aircraft Lost and Damaged

Aircraft Lost

<u>Group</u>	<u>Serial Number</u>	<u>Combat</u>	<u>Operational</u>	<u>Unknown</u>	<u>Explanation</u>
444th	65226			X	Not heard from after reaching the I.P. - A/C still missing
				1	
468th	24704			X	Not heard from after giving signal bombs away over Primary - A/C still missing
				1	
<u>TOTAL</u>				<u>2</u>	

Aircraft Damaged

Major Damage

Negative Report.

Minor Damage

<u>Group</u>	<u>Serial Number</u>	<u>E/A</u>	<u>A/A</u>	<u>Own Guns</u>	<u>Other</u>	<u>Explanation</u>
40th	24582	X				Hole through top of left elevator.
	63394	X				Hole in #4 tank, right flap, aileron trim tab cable severed.
		2				
444th	24720	X				Bullet entered leading edge of horizontal stabilizer damaging some spars and ribs and the right elevator.
		1				
462nd	24475		X			Hole in wing and tail gunner's window cracked.
	63540				X	Bombs dropped on doors.
	63472	X				Hole in gas tank, and top of wing.
		1	1		1	
468th	24678	X				#1 engine and nacelle damaged, #3 throttle shot out. Nose wheel tires and doors damaged.
	24546	X				Upper blister damaged. Hole through rad. compartment.
	24691				X	Bomb came loose during storm and plunged through bomb bay doors. Bent both doors.
	24487				X	Bombs in rear bomb bay fell through bomb doors during storm. Both doors damaged.
		2			2	

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XX BOMBER COMMAND  
 CONSOLIDATED MISSION STATISTICAL SUMMARY  
 Mission Number Twenty Seven  
 11 January 1945

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Table VI - Attacks & Passes by Enemy Aircraft

DIRECTION	ALTITUDE															
	HIGH				LOW				LEVEL				TOTAL			
	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th
0800								1								1
0900	2		2							3			2		5	
1000	5	3	1			2				4			5	5	5	
1100	1			1	3	1				2			4	3		1
1200	7	6	1	1	1	1	1	3			3		8	7	5	4
0100	3		6	2	2	1			2		6	1	7	1	12	3
0200	3	1	4		2		2			2	1		5	3	7	
0300	1		7		4		3			2		5	5	2	10	5
0400			2				2			1				1	4	
0500				3		1					3			1	3	3
0600	2	3			1			1		1	2	1	3	4	2	2
0700		1			1	2		2	1				2	3		2
TOTAL	24	14	23	7	14	8	8	7	3	8	22	7	41	30	53	21

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CONSOLIDATED MISSION STATISTICAL SUMMARY  
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11 January 1945

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Table VII - Personnel Losses

Crew Position	Killed				Missing				Seriously Wounded				Slightly Wounded				Total Casualties				Total Participating			
	40	444	462	468	40	444	462	468	40	444	462	468	40	444	462	468	40	444	462	468	40	444	462	468
Pilot					1			2									1		2		10	12	12	14
Co-Pilot					1												1				10	12	12	12
Navigator					1			1									1		1		10	12	12	13
Bombardier					1			1									1		1		10	12	12	13
Flt. Engr.					1			1									1		1		10	12	12	13
Radar					1			1									1		1		10	12	12	13
Radio					1			1									1		1		10	12	12	13
CFC Spec					1			1							1		1		2		10	12	12	13
Right Gnr					1			1									1		1		10	12	12	13
Left Gnr					1			1									1		1		10	12	12	13
Tail Gnr					1			1									1		1		10	12	12	13
R C M																								3
Others																					2	2	2	
TOTAL						11		11							1		11		12		112	134	134	146

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CONSOLIDATED MISSION STATISTICAL SUMMARY  
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Table VIII - Expenditures of Ammunition and Claims Against Enemy Aircraft

Group	Ammunition Expended Per Plane In Combat Firing					Total Expended	Claims Against Enemy Aircraft					
	Upper Front	Lower Front	Upper Rear	Lower Rear	50 Cal. Tail		Destroyed	Probably Destroyed	Damaged	Per 1000 Pounds Expended in Combat		
										Destroyed	Probably Destroyed	Damaged
40th	94	61	106	106	90	4555	0	0	5	-	-	1.10
444th	76	56	41	60	54	3154	1	1	5	.32	.32	1.59
462nd	153	75	208	133	178	7465	4	0	4	.54	-	.54
468th	98	92	103	197	107	7155	1	0	3	.14	-	.42
TOTAL	104	72	112	126	106	22329	6	1	17	.27	.04	.76

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XX BOMBER COMMAND  
CONSOLIDATED MISSION STATISTICAL SUMMARY  
Mission Number Twenty Seven  
11 January 1945

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Table IX - Gasoline Loading and Consumption

Group	Average Gross Weight Per Plane Before Rear Area Takeoff	Average Gals Gas Loaded Per A/C Before Rear Area Takeoff	* Average Gallons Consumed on Mission		* Average Gallons Remaining in A/C After Mission	
			Per Aircraft Bombing Primary	Per Aircraft Not Bombing Primary	Per Aircraft Bombing Primary	Per A/C Not Bombing Primary
40th	133536	7905	7325	6292	575	1625
444th	134098	7900	7316	5515	584	2385
462nd	134458	7900	7096	6937	804	963
468th	134832	7900	7100	5646	800	2254
TOTAL	134273	7901	7225	5975	675	1926

\* Excludes A/C which did not return directly to home fields.

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