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Tactical Mission REPORT

Lt. Colonel
H. N. BRANDON

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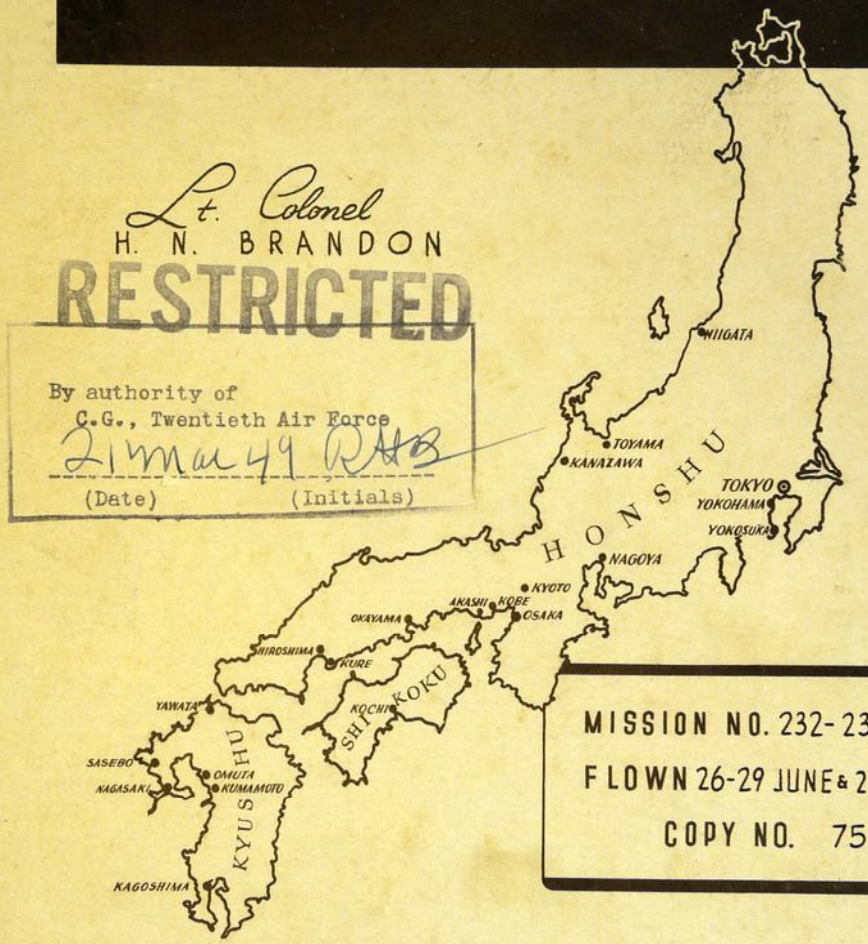
By authority of
C.G., Twentieth Air Force
21 Mar 49 RAB
(Date) (Initials)



MISSION NO. 232-238-245
FLOWN 26-29 JUNE & 2 JULY '45
COPY NO. 75

HEADQUARTERS
XXI BOMBER COMMAND
APO 234

7-55-54

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FOREWORD

This report covers the first 3 missions of the 315th Bombardment Wing, (XXI Bomber Command Missions No. 232, 238, and 245).

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Missions Number 233, 239, and 244 were Mining Missions and will be the subject of a Tactical Mission Report which received only limited distribution.

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Missions Number 234 and 237 will be covered in one Tactical Mission Report, as will Missions Number 240 through 243.

HEADQUARTERS
XXI BOMBER COMMAND
APO 234

TACTICAL MISSION REPORT

Field Order Nos. 90, 92 and 94 Missions No. 232, 238 and 245

Targets: Utsube River Oil Refinery (90.20-1684), Nippon Oil Company (90.32-672), and the Maruzen Oil Company, Shimotsu (90.25-1764).

26, 29 June and 2 July 1945

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Prepared By:

A-2 Section
XXI Bomber Command

HEADQUARTERS
XXI BOMBER COMMAND
APO 234

2 July 1945

SUBJECT: Report of Initial Operations, 315th Bombardment Wing, 26 June, 29 June, and 2 July 1945.

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

1. SPECIAL EMPLOYMENT OF 315th BOMBARDMENT WING AIRCRAFT:

a. Originally, it was planned to assign targets to the 315th Bombardment Wing on the same basis as those assigned to the other 4 Wings (58th, 73rd, 313th, and 314th) of this Command. However, after thorough consideration of the 315th Wings' operational capabilities and limitations, this arrangement was found to be unsatisfactory.

b. The aircraft of the 315th Wing had been stripped of all defensive armament but the tail turret on the theory that a B-29 flying at an altitude of 35,000 feet or higher cloud not be successfully attacked by fighters except from the rear. The other important operational difference of this Wing from the other 4 Wings was the installation of APQ-7 airborne radar in this Wing's aircraft instead of the APQ-13 which is carried by aircraft of the other Wings. The APQ-7 was designed primarily for bombing, having excellent definition but only 60 degrees of sweep, whereas the APQ-13 was designed primarily as a navigational aid, having 360 degrees of sweep but relatively poor definition.

c. The 315th Wing could, and was trained to bomb from extremely high altitudes in daylight. However, when this Wing arrived in the theatre, a study of the experiences of the other Wings revealed the advisability of operating at night from medium altitudes rather than during daylight hours from higher altitudes. This plan was expected to result in greater operational efficiency of the aircraft in addition to the carrying of bomb loads greater than those carried by the other 4 Wings. Furthermore, it was decided that in order to acquire an estimate of the capabilities of the APQ-7, which was being used for the first time in B-29 combat, the 315th Wing should be assigned its own targets.

d. Coincident with this decision, intelligence indicated that the importance of oil refining and oil storage targets was increasing. These targets were all relatively large, increasing their radar-visibility, and were located on or near the coast, a condition which had been found to be almost essential for attack by APQ-7 equipped aircraft because of the limited capability of this set for inland navigation. It was decided, therefore, that the first series of attacks of the 315th Wing would be confined to strikes against oil refineries and oil storage installations.

2. IDENTIFICATION OF MISSIONS:

a. Field Orders Number 90, 92, and 94, Headquarters XXI Bomber Command, dated 25 June, 28 June, and 2 July respectively, directed the 315th Bombardment Wing to participate in medium altitude night attacks against 3 oil refineries on Honshu in XXI Bomber Command Missions Number 232, 238, and 245.

b. Targets Specified:

(1) Primary Targets:

Mission	Target	Force Assigned
232	Utsube River Oil Refinery (90.20-1684)	36 aircraft
238	Nippon Oil Co., Kudamatsu Plant (90.32-672)	36 aircraft
245	Maruzen Oil Refinery, Shimotsu (90.25-1764)	36 aircraft

(2) No other targets were specified.

3. STRATEGY AND PLANS OF OPERATIONS:

a. Strategy: The primary purpose of these attacks, the first to be conducted by the 315th Wing against the Japanese mainland, was to determine the accuracy against precision targets that could be expected by the employment of a radar synchronous bombing technique with the APQ-7 radar equipment. Because of the limited armament (315th Wing aircraft are equipped with tail guns only), it was planned that the attacks would be made at night when little, if any, enemy aircraft opposition would be encountered. Although these night attacks would necessitate bombing by individual aircraft, it was considered that this would not influence bombing accuracy since a radar synchronous bombing procedure was to be used by each aircraft participating on the missions.

b. Importance of the Targets:

(1) Mission 232: The Utsube River Oil Refinery is located approximately 2 miles southeast of the town of Yokkaichi on the north side of the mouth of the Utsube River. Originally on a par with the oil production centers of Tokuyama and Otaka, this target now ranks first as a center of aviation gas production in Japan proper. These installations include facilities for synthetic oil refining (estimated at 37 per cent of Japanese synthetic production), natural oil refining (very important but output is not known), production of tetra-ethyl lead (estimated at 25 per cent of total Japanese production), and extensive oil storage.

(2) Mission 238: The Kudamatsu Plant of the Nippon Oil Company is located southwest of the city of Kudamatsu which is approximately 5 miles southwest of Tokuyama on the Inland Sea. This plant is considered to be the fourth largest oil refinery in the Japanese inner zone and has an estimated annual refining capacity of 2,500,000 barrels and a cracking capacity of 666,000 barrels. It has an estimated storage capacity of 200,000 barrels.

(3) Mission 245: The Maruzen Oil Refinery, Shimotsu, is located near the south entrance to Osaka Bay, 4½ miles southwest of Kainan and 3 miles northeast of Minoshima. An important refinery and oil storage center for the Japanese Navy, this target is credited with the production of aviation gas, lube oil, gasoline, and fuel oil and has facilities for storage of both crude oil and refined products. A unit of this plant may be engaged in the manufacture of steel drums.

c. Details of Planning--Operational:

(1) Bombing Plans:

(a) Determination of Bomb Load:

1. For use against the Utsube River Oil Refinery (Mission 232) and the Maruzen Oil Refinery, Shimotsu (Mission 245), all

aircraft were to be loaded with 500-pound general-purpose bombs fuzed .025-second delay nose and non-delay tail. The 500-pound bomb was selected since these installations are of both refinery and storage type and are well dispersed within the areas of the targets. The larger number of bomb hits which would be inflicted by the use of this size bomb was expected to result in maximum damage to both manufacturing and storage facilities. Since the .01-second delay fuze was not available, the .025-second delay fuze was selected as an alternate nose fuzing. It was believed that this delay would give bomb burst just above floor level and should be very effective against the refinery and shop installations. The non-delay tail fuze was selected in order that ground-level burst would be given to near miss bombs by which maximum blast and fragmentation effect would be obtained against the refinery installations which constituted the major facilities in each target. Since the majority of storage tanks in each target area were small, it was believed that impact initiation of the non-delay fuze would result in sufficient force to destroy the tanks receiving direct hits. For this reason, delay fuzing, which would allow penetration, was considered unnecessary.

2. For use against the Kudamatsu Plant of the Nippon Oil Company (Mission 238), all aircraft were to be loaded with 500-pound general-purpose bombs fuzed .1-second delay nose and .01-second delay tail. This bomb was selected for use on this target for the same reason as that given for the other 2 targets. The .01-second delay tail fuze was selected as it would allow penetration of the bomb, beneath the tank tops, to a sufficient depth to assure detonation below the contents level, resulting in maximum damage to the installation. The .1-second delay nose fuze was selected as an assurance fuze only.

(b) Bombing Data: Bombing altitudes, axes of attack, initial points, anticipated drift, and other pertinent bombing data for these 3 missions were to be as follows:

	Mission 232	Mission 238	Mission 245
Bombing Altitude	15,000 feet	(15,000 to 16,000 feet)	
Axis of Attack	320 degrees	35 degrees	42 degrees
Initial Point	343430N-1371000E	3334N-13126E	335000N-1344430E
Drift	10 degrees right	6 degrees right	6 degrees right
Time of Run	6 minutes	7 minutes	6 minutes
Length of Run	24 miles	31½ miles	28 miles

(2) Navigation: The following routes were to be employed on these missions:

(a) Mission 232:

Route	Reasons for Selection
Base to Iwo Jima	Tactical Doctrine
to	
343430N-1370100E (Initial Point)	Irako Saki Point at the entrance to Nagoya Bay. Easily identified for landfall and initial point
to	
Target	Utsube River Oil Refinery. A left turn was to be made off the target avoiding flak area.
to	
Iwo Jima to Base	Tactical Doctrine.

(b) Mission 238:

Route	Reasons for Selection
Base to Iwo Jima	Tactical Doctrine
to	
3255N-13205E	An easily identified landfall point on the eastern coast of Kyushu.
to	
3334N-13126E (Initial Point)	A point just left of Usa. Easily identified for the best radar approach to the target.
to	
Target	Kudamatsu Plant of the Nippon Oil Company.
to	
330130N-1330600E	To avoid flak areas.
to	
Iwo Jima to Base	Tactical Doctrine.

(c) Mission 245:

Route	Reasons for Selection
Base to Iwo Jima	Tactical Doctrine
to	
3322N-13403E	Landfall at left of Muroto Point making a straight approach to the target through
to	the initial point.
335000N-1344430E (Initial Point)	The jutting point of land at the entrance to Osaka Bay making the best approach to the
to	target.
Target	Maruzen Oil Refinery, Shimotsu.
to	
3335N -13557E	Lands end.
to	
Base to Iwo Jima	Tactical Doctrine.

(3) Flight Engineering:

(a) Except for the bombing run and compression of the force, all aircraft on these missions were to fly at speeds and altitudes which would allow maximum range and safety. Speeds were to be approximately 5 miles per hour higher than those recommended by the XXI Bomber Command Tactical Doctrine. No assemblies were to be effected.

(b) It was estimated that aircraft on these missions would require a fuel load of full wing and center wing tanks. The bomb load was estimated at 18,000 pounds.

(4) Radar:

(a) Mission 232: The Utsube River Oil Refinery is located on the coast of Nagoya Bay on a promontory south of Yokkaichi. This area was considered an excellent one for radar navigation and target identification because of the prominence of the bay with its outstanding coastal features and the radar return of Nagoya. Originally, it was believed that a long downwind axis would be best, but due to the defenses of Osaka and the lack of good radar initial points to the west, an axis to the southeast was chosen. This approach to the target is from water to land and should allow for an excellent radar return.

(b) Mission 238: It was believed that radar navigation would be very good on this mission because of the excellent coastline checkpoints of Kyushu and Shikoku. Landfall would be made at a distinctive point on the southwestern tip of Shikoku. Since the terrain at landfall point is rather rugged, all operators should have no difficulty in identifying it in time to make the initial wind run.

(c) Mission 245: On this mission an approach was planned which would allow the best employment of the APQ-7 radar equipment. The requirements set up for the optimum use of this equipment were; a low drift factor, a good landfall point for the initial wind run, a definite radar initial point, and if possible, a small turn at the initial point. Based on these requirements, a route was chosen which approximated a straight line from landfall through the initial point to the target. It was expected that landfall point would be easily identified in time to allow for an initial wind run. The initial point, a distinctive peninsula 45 miles from landfall, was expected to be within easy range after making the turn at landfall. The target itself (Maruzen Oil Refinery) is on the coast with a river running along its northern side and was expected to show up on the APQ-7 radar scope as an excellent return.

(5) RCM: Because the 315th Wing was not equipped with RCM equipment, search and jamming could not be conducted on these missions. It was planned that rope be carried in each aircraft to be dispensed.

(6) Air-Sea Rescue: (See Annex A, Part V, for Air-Sea Rescue Chart). The Navy was furnished with details of the missions and provided the following air-sea rescue facilities: For Mission 232, 2 submarines; 4 Dumbos; and 3 surface vessels; for Mission 238, 3 submarines; 4 Dumbos; and 3 surface vessels; for Mission 245: 4 submarines, 5 Dumbos, and 3 surface vessels. In addition to these facilities the Navy assigned crash boats in the vicinity of the Command bases for take-offs and landings.

(7) Fighter Escort: Since these mission were to be flown at night, no fighter escort was planned.

d. Details of Planning--Intelligence:

(1) Enemy Fighter Reaction:

(a) Mission 232: It was estimated that 25 to 35 enemy fighters could oppose this strike, offering negligible to weak opposition.

(b) Mission 238: Although an estimated 30 to 40 enemy fighters were located in this area, it was believed that only 15 to 20 of these aircraft (not more than 5 of which would be night fighters) cloud oppose this strike.

(c) Mission 245: It was estimated that 20 to 25 enemy fighters might intercept on this mission, offering negligible to weak opposition.

(2) Enemy Antiaircraft:

(a) Mission 232: It was estimated that there were only 2 heavy guns in the Yokkaichi area. At the planned altitude of attack (15,000 feet), only very meager and inaccurate fire was expected. Antiaircraft opposition presented no problem in planning with the exception of specifying a route to and from the target to avoid other flak areas.

(b) Mission 238: The defenses at Kudamatsu consisted of 15 heavy guns and 3 searchlights. This was considered a very meager defense against night attack at the planned altitude of attack (15,000 to 16,000 feet). The route to the target would bring the aircraft barely within range of the Oita defenses (19 heavy guns), but only meager and inaccurate flak was expected there. It was planned that the approach be from the southwest in order to avoid the defenses at Tokuyama (33 heavy guns), immediately northwest of Kudamatsu. A breakaway to the southeast avoiding the Shikoku defenses was planned.

(c) Mission 245: In the past, meager and inaccurate fire had been enountered in the Wakayama area. However, since there were no adequate photographs of the area, these reports could not be confirmed. It was considered that flak would be of minor importance at the planned altitude of attack of 15,000 to 16,000 feet. The route was planned to avoid all known defenses.

4. EXECUTION OF THE MISSIONS:

a. Take-off: Take-off for each mission was accomplished as follows:

Mission	Aircraft Airborne	First Take-off	Last Take-off
232	35	260700Z	260734Z
238	36	290730Z	290811Z
245	40	020730Z	020833Z

b. Route Out: On Mission 232, 3 aircraft deviated from the briefed route to the target because of navigational error. One of these 3 aircraft failed to bomb the primary target due to a combination of navigation error and engine trouble. On Missions 238 and 245, all aircraft flew the briefed route without incident.

c. Over Target:

(1) Primary Targets: For all missions, target area navigation, wind determination, and bombing, were accomplished by radar. A total of 104 aircraft bombed the primary targets with 500-pound general-purpose bombs as follows:

Mission	Aircraft Bombing	Tonnage Dropped	Time of Release Earliest	Latest	Bombing Altitude
232	33	222.8	261335Z	261505Z	15,000 to 16,000 feet
238	32	208.5	291506Z	291537Z	15,400 to 16,875 feet
245	39	296.7	021508Z	021607Z	15,000 to 16,000 feet

(2) Targets of Opportunity: Two aircraft bombed targets of opportunity. On Mission 232, 1 B-29 dropped 6.7 tons of 500-pound general-purpose bombs on Kagata from 15,400 feet. On Mission 245, 1 B-29 dropped 8 tons of 500-pound general-purpose bombs on Sakinohama from 9000 feet.

(3) Remainder of Force: There were 5 non-effective aircraft on these missions.

d. Route Back: Return to base on all missions was flown as briefed. Three aircraft landed at Iwo Jima (1 on Mission 232 and 2 on Mission 245).

e. Landing: Aircraft landed at home bases as follows:

Mission	First Landing	Last Landing
232	262048Z	262130Z
238	292045Z	292305Z
245	022030Z	022230Z

f. Losses: No aircraft were lost on these missions.

g. Operational Summary:

(1) Navigation: (See Annex A, Part I, for details). Navigation for all missions was considered excellent. Weather conditions were considered exceptionally favorable and much celestial work was accomplished. APN-9 Loran was extensively used.

(2) Bombing: No serious difficulty was encountered on any of these missions. One aircraft on Mission 245 reported a bomb bay door malfunction.

(3) Flight Engineering: (See Annex A, Part II, for chart, and Consolidated Statistical Summary, Annex E, for details).

(a) Narrative of the Missions as Flown:

1. Route Out: Climbs were made immediately after take-offs to cruising altitudes (5000 to 10,000 feet). Altitudes and airspeeds differed in order to attain compressibility of the striking forces. Climbs to bombing altitudes were made just off the coast of Japan.

2. Bomb Run: Bombing was conducted between 15,000 and 17,000 feet at speeds of approximately 230 miles per hour (calibrated air speed).

3. Return to Base: Returns to base were made by descents to approximately 10,000 feet and cruising at that altitude until a gradual descent to base could be accomplished.

(b) Comments:

1. Speeds flown were approximately 5 miles per hour higher than those recommended for a normally armed airplane.

2. Due to lack of information on the capabilities of 315th Wing aircraft, bomb loads were low and fuel reserves were high. However, a greater bomb load and a lower fuel reserve is anticipated for future operations of this Wing.

(4) Radar: (See Annex A, Part III, for details and Radar-Scope Photos). Two aircraft of the 104 aircraft bombing the primary targets bombed visually.

(5) Gunnery: (See Annex A, Part IV, for Gunnery Report).

(6) Air-Sea Rescue: There were no ditchings or bailouts on these missions.

h. Weather: (See Annex B for details). Weather on all missions was approximately as forecast with the exception of weather over the target on mission 232, which was less favorable.

i. Communications:

(1) RCM: (See Annex C, Part I, for details). Search and jamming was not conducted on these missions since the 315th Wing was not equipped with the necessary RCM gear.

(2) Radio: (See Annex C, Part II, for details). Security and discipline were excellent during these missions.

j. Intelligence Summary:

(1) Enemy Air Opposition: (See Annex D, Part I, for details). Enemy air opposition was reported as nil on these missions.

(2) Enemy Antiaircraft: (See Annex D, Part II, for details). On Mission 232, enemy antiaircraft opposition over the target area was described as meager, inaccurate, heavy, and continuously pointed. On Missions 238 and 245, opposition was nil except for 1 encounter of meager, inaccurate, heavy flak at landfall on Mission 245.

(3) Damage Assessment: (See Annex D, Part III, for details).

(a) Mission 232: Damage assessment for this mission will be found in Damage Assessment Report Number 141 which will be included in the Tactical Mission Report for Missions Number 257 through 261.

(b) Mission 238: Damage assessment for this mission was not available at the time of the writing of this report and will be included in a later report.

(c) Mission 245: Damage to the Maruzen Oil Refinery as a result of this mission amounts to 54,225 square feet or 10.35 per cent of the total roof area.

Curtis E. LeMay
CURTIS E. LeMAY
Major General, U.S.A.
Commanding

ANNEX

A

OPERATIONS

Part I - Navigation Track Chart

Part II - Flight Engineering Charts

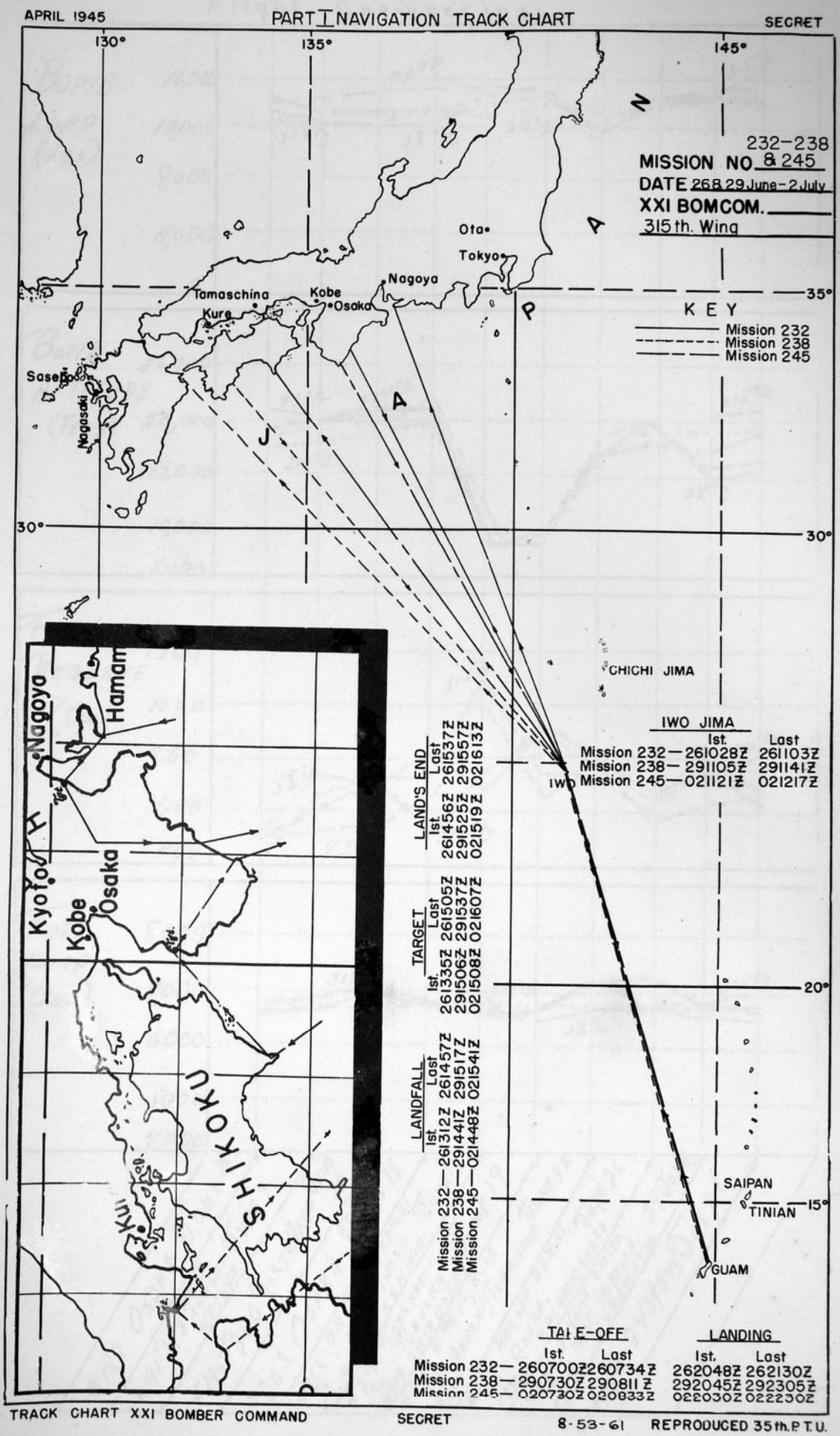
Part III - Radar and Radar Photos

Part IV - Gunnery

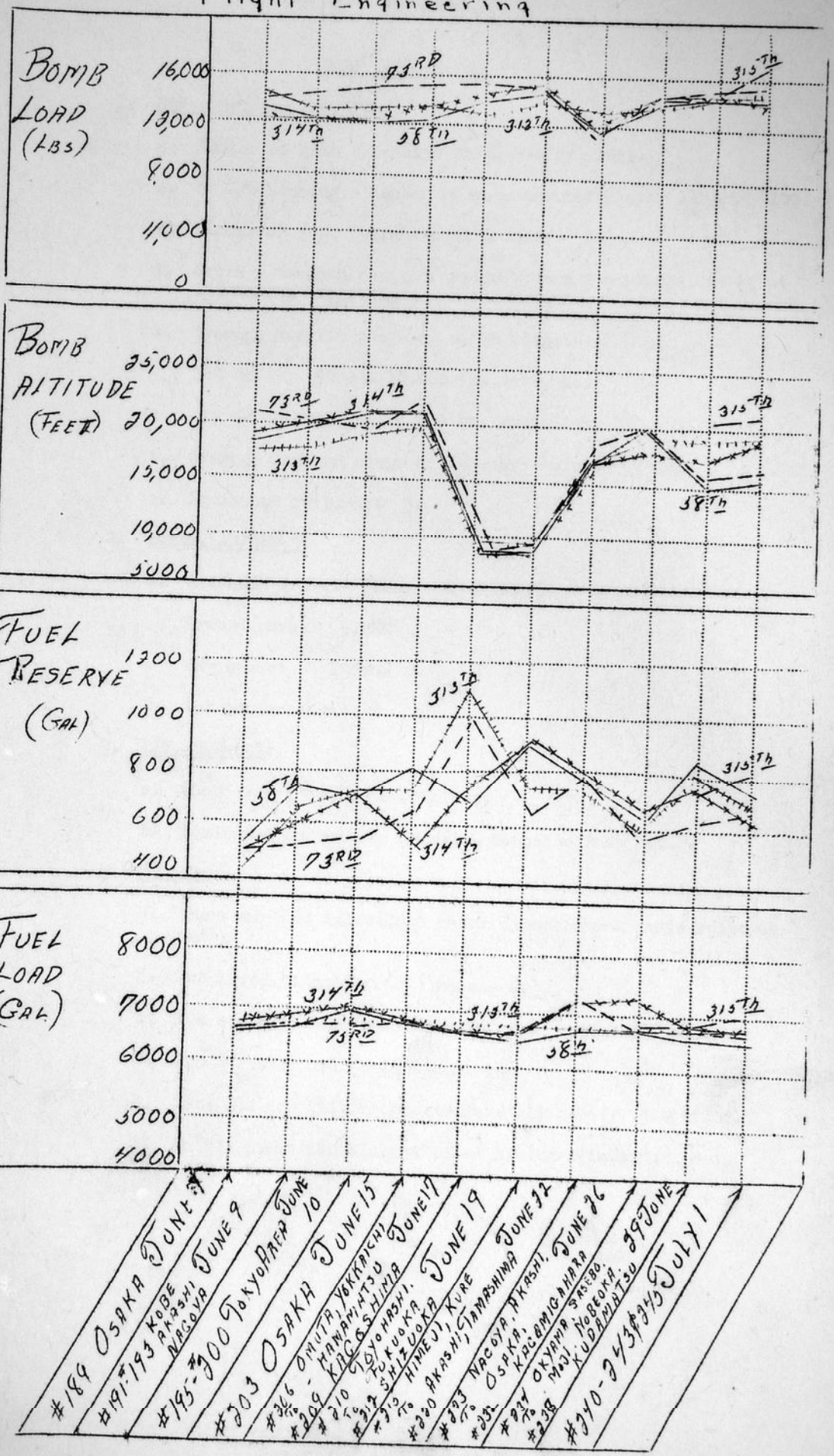
Part V - Air-Sea Rescue Chart

Missions No. 232, 238 and 245

26/29 June and 2 July 1945



Flight Engineering



PART III - RADAR

1. Radar Bombing, AN/APQ-7:

   a. Number of sets operative on take-off: 106.

   b. Of A/C bombing - number of sets operative over target: 100.

   c. Number of sets operative on landing: 102.

   d. Average maximum range of radar beacon reception: 80 NM at 15,000 ft. altitude.

   e. Average maximum range of radar targets:

      109 NM at 5000 - 10,000 ft. altitudes

      79 NM at 10,000 - 15,000 ft. altitudes

   f. Average maximum range of Japanese coast: 53 NM.

   g. Equipment failures: 5.

2. Loran, AN/APN-9:

   a. Antennas are all fixed. Maximum range:

      Ground waves: 570NM

      Sky waves: 1500NM

   b. Set inoperative: 6

3. IFF, SCR-695:

   a. There was 1 equipment failure.

   b. Equipment turned on, checked, turned off as S.O.P.

4. Remarks:

   a. There were 88 individual radar direct synchronous releases made.

   b. Two aircraft made visual releases.

   c. Two aircraft made radar direct fixed angle releases.

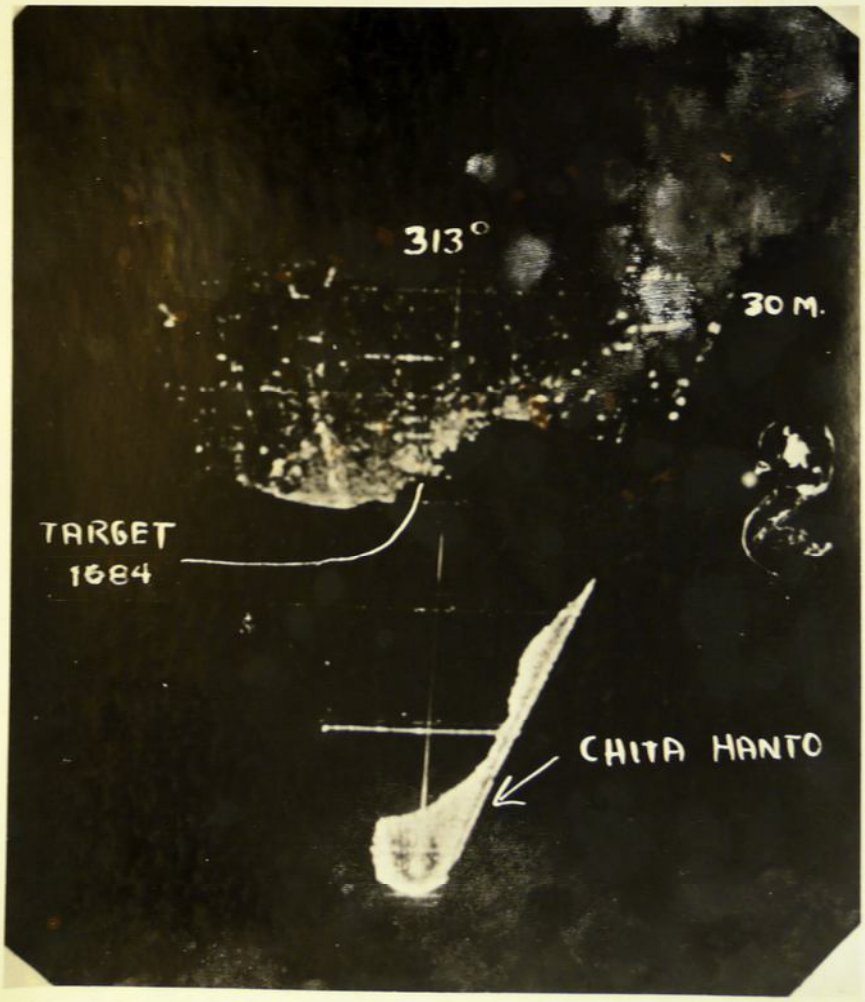
   d. One aircraft made a D/R release.

   e. Landfall and initial points were all easily identified.

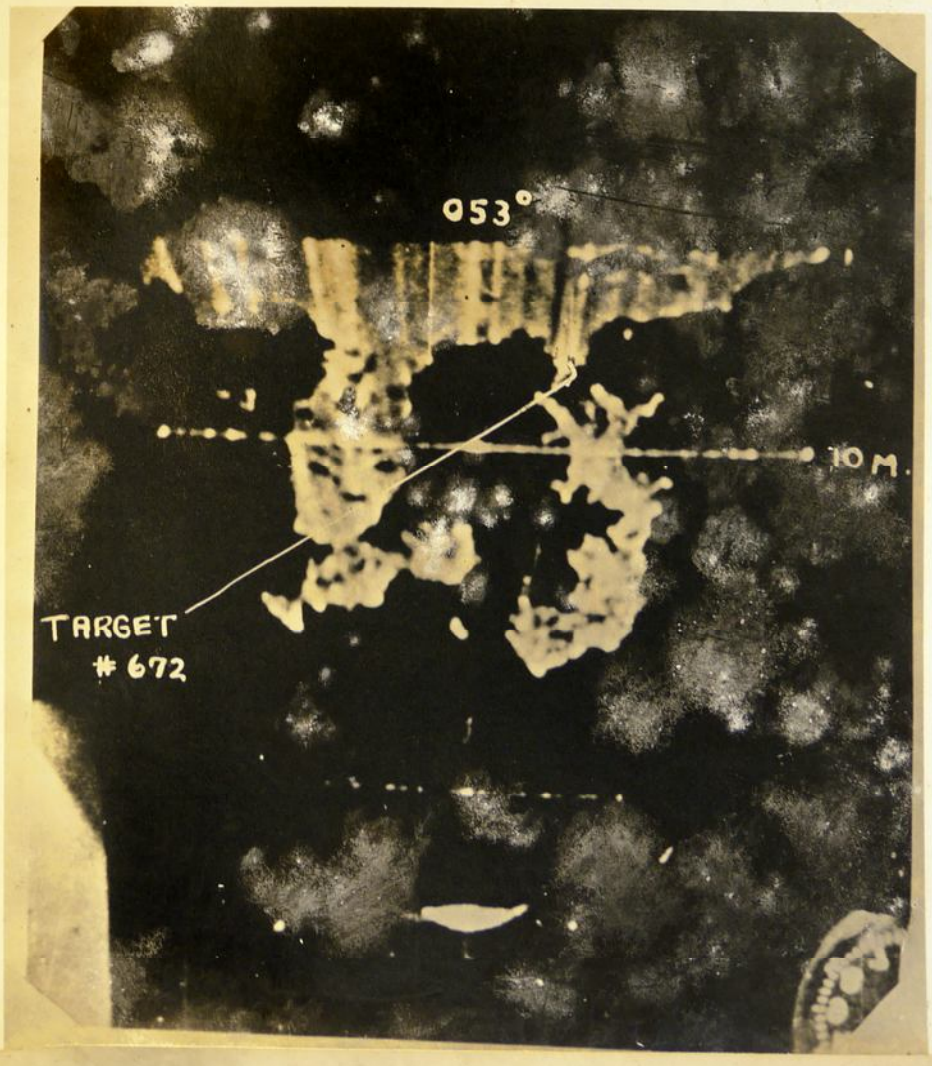
   f. In all cases identification of aiming points was good.

MISSION 232 TARGET 1684

MISSION 232 TARGET 1684



MISSION 238 TARGET 672



PART IV - GUNNERY

1. No. of A/C Firing: 0

2. Average tail turret load: 1425.

3. No. of rounds fired in combat: None.

4. No. of rounds used for test firing: 7695. Average per gun: 23.

5. Guns Loaded: Cold.

6. Malfunctions:

a. C.F.C.: Dynamotor out, defective back out circuit, elevation limit switch out and 68 APG-15 malfunctions.

b. CAL. .50 M.G.: Bolt sw. reversed.

7. Equipment operation (Total percentage operative):

a. C.F.C.: 99.6%

b. CAL. .50 M.G.: 99.87%

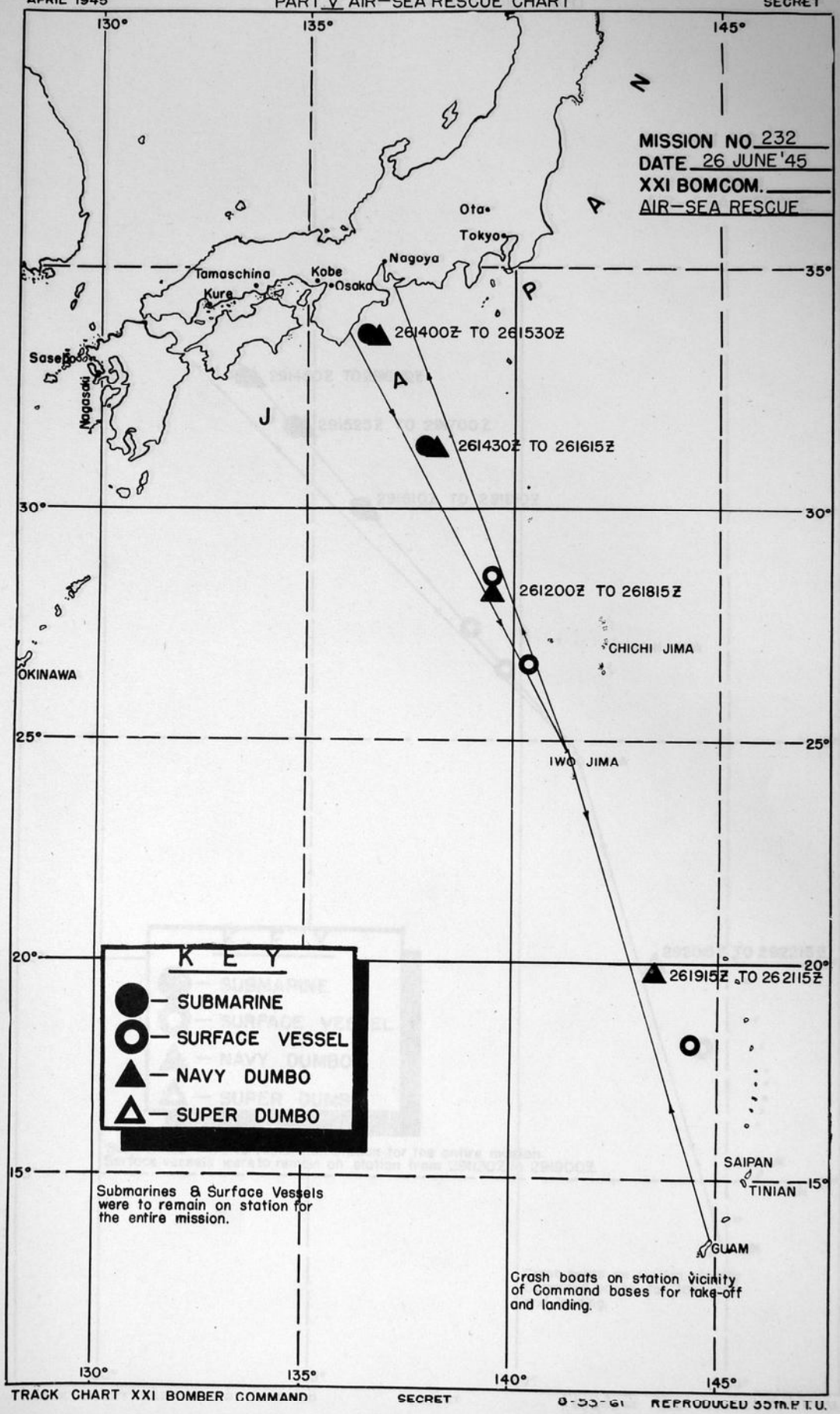
8. Remarks:

a. APG-15 equipment malfunctions are extremely high.

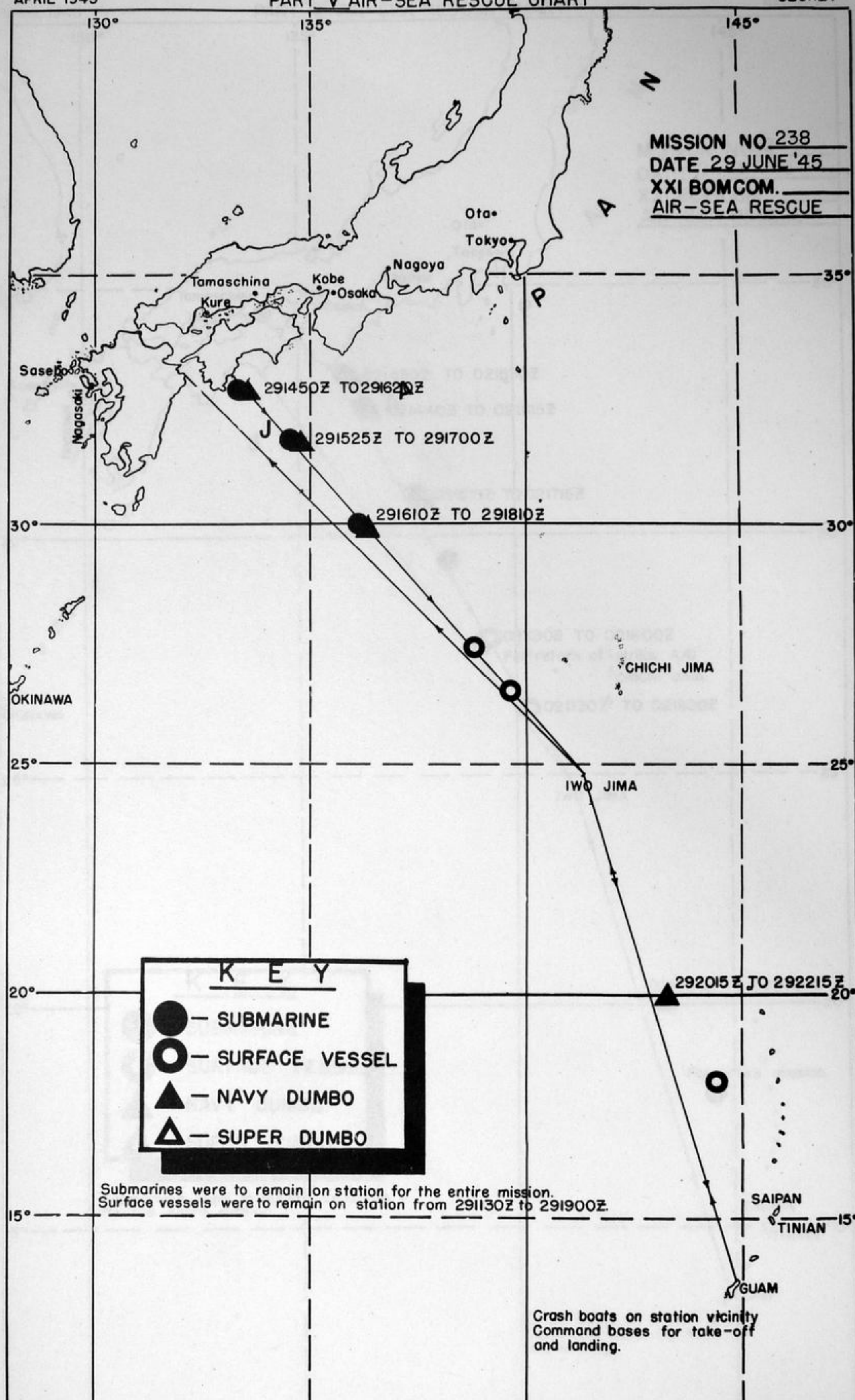
APRIL 1945

PART V AIR–SEA RESCUE CHART

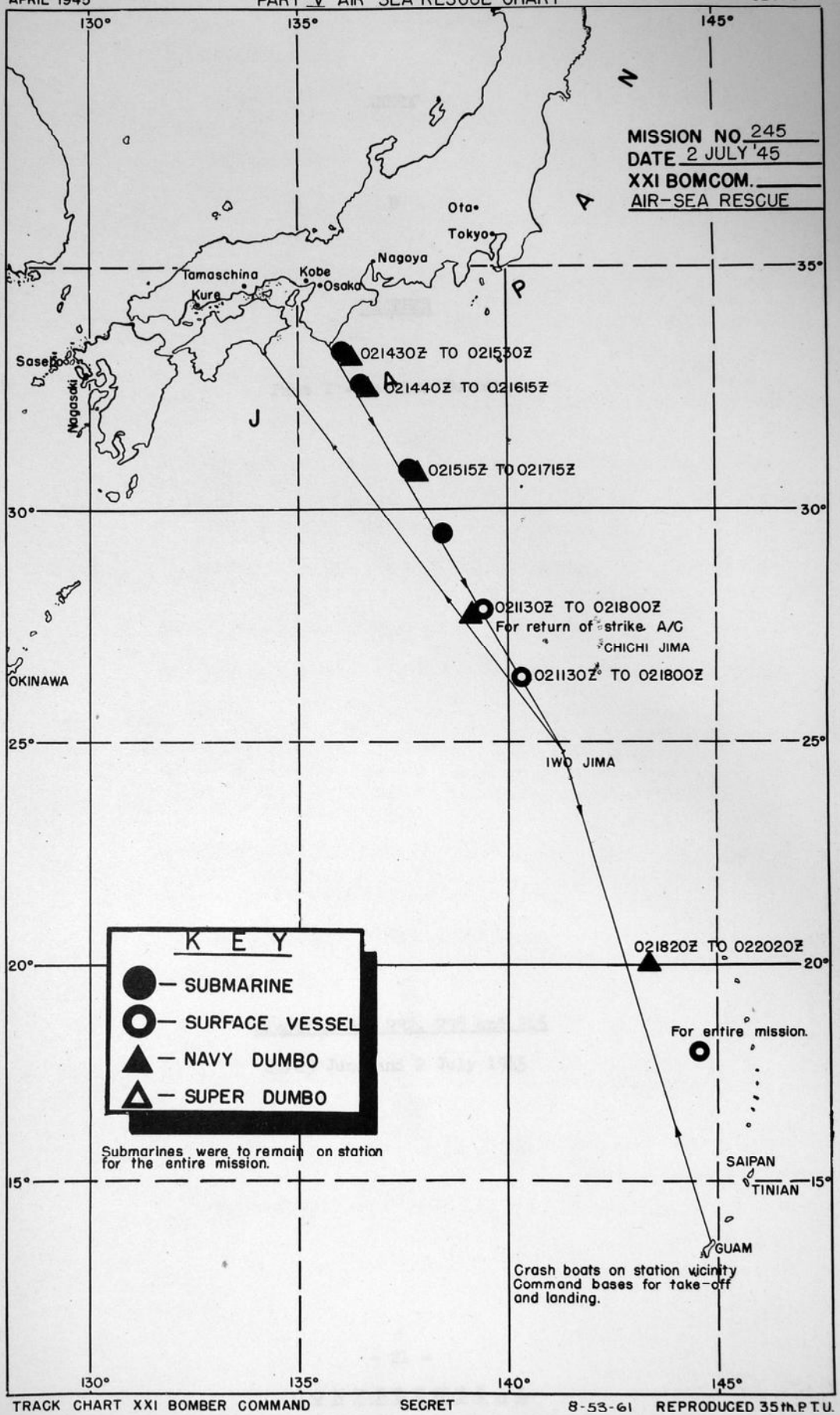
SECRET



TRACK CHART XXI BOMBER COMMAND SECRET 8-53-61 REPRODUCED 55TH P.T.U.


130°
135°
140°
145°
35°
30°
25°
20°
15°
MISSION NO. 238
DATE 29 JUNE '45
XXI BOMCOM.
AIR-SEA RESCUE
J A P A N
Ota
Tokyo
Nagoya
Kobe
Osaka
Tamaschina
Kure
Sasebo
Nagasaki
291450Z TO 291620Z
291525Z TO 291700Z
291610Z TO 291810Z
CHICHI JIMA
OKINAWA
IWO JIMA
292015Z TO 292215Z
SAIPAN
TINIAN
GUAM
KEY
— SUBMARINE
— SURFACE VESSEL
— NAVY DUMBO
— SUPER DUMBO
Submarines were to remain on station for the entire mission.
Surface vessels were to remain on station from 291130Z to 291900Z.
Crash boats on station vicinity Command bases for take-off and landing.

APRIL 1945 — PART V AIR-SEA RESCUE CHART — SECRET



TRACK CHART XXI BOMBER COMMAND — SECRET — 8-53-61 REPRODUCED 35th P.T.U.

ANNEX

B

WEATHER

Part I - Weather Summary

Missions No. 232, 238 and 245

26/29 June and 2 July 1945

FINAL WEATHER SUMMARY

1. Mission No. 232:

a. Base at Take-off: Five-tenths to 6/10 low clouds, base 1800 feet; scattered light showers.

b. Route Outgoing:

(1) To 29 Degrees North: Four-tenths to 6/10 low clouds, base 2000 feet, top 4000 to 8000 feet; 2/10 high clouds at 25,000 feet; scattered light showers.

(2) From 29 Degrees North to 33 Degrees North: Eight-tenths low clouds, top 8000 to 12,000 feet; 10/10 middle clouds in layers between 9000 and 22,000 feet; 10/10 high clouds at 25,000 feet; moderate rime icing, heavy rain reducing visibility to zero.

(3) From 33 Degrees North to Target: Three-tenths low clouds, top 5000 feet; 7/10 middle clouds, base 20,000 feet, top 22,000 feet.

c. Target: Two-tenths low clouds, top 5000 feet; 10/10 middle clouds, base 20,000 feet, top 22,000 feet; visibility 5 to 10 miles in light haze; winds at 20,000 feet were 265 degrees at 45 knots.

d. Route Return: Same as route outgoing.

e. Bases on Return: Four-tenth low clouds, base 2000 feet; 2/10 high clouds at 30,000 feet.

2. Mission No. 238:

a. Base at Take-off: Broken low clouds, scattered low clouds.

b. Route: There were broken low and scattered middle clouds with occasional towering cumulus and scattered showers to 24 degrees north. From 24 degrees north to landfall scattered low clouds to clear becoming scattered to broken low and scattered high clouds at north end of the zone. From landfall to target cloudiness increased to broken low middle and high clouds.

c. Target: Eight-tenths to 10/10 stratocumulus, tops 5000 feet; 9/10 altostratus, base 10,000 feet, top 16,000 feet; 8/10 cirrus. Winds at 15,000 feet were 275 degrees at 40 knots.

d. Base on Return: Broken low clouds.

3. Mission No. 245:

a. Base at Take-off: Broken low clouds.

b. Route: Scattered to broken low clouds over entire route except at 17 degrees north and 26 degrees north where there were lines of towering cumulus with light showers.

c. Target: There were 4/10 to 10/10 (variable) stratocumulus with tops at 5000 ft.

d. Base on Return: Scattered low and high clouds.

ANNEX

C

COMMUNICATIONS

Part I - RCM

Part II - Radio

Missions No. 232, 238 and 245

26/29 June and 2 July 1945

PART I - RCM

1. Purpose:

a. To confuse enemy gun-laying and searchlight radars by the use of rope.

2. Method:

a. Fifty bundles of rope were carried by each aircraft.

b. The rope was dispensed at the rate of 3 bundles per 10 seconds when protection was needed from searchlights.

3. Results:

a. Because of the cloud coverage in the target areas, enemy searchlights were not effective.

b. One crew reported successful diversion of searchlights by the use of rope.

4. Remarks:

a. Search and jamming was not conducted on these missions since the 315th Wing was not equipped with the necessary RCM gear.

* * * * *

PART II - RADIO

1. Strike Reports: The 315th wing ground station received 14 Strike Reports during these three missions.

2. Fox Transmissions: Weather and Time Signals were the only Fox transmissions used.

3. Frequencies: For their first 3 missions, the 315th Wing reported no evidence on intentional jamming. However, their 3 and 6 megacycle frequencies were blocked intermittently on Mission 245 by what is thought to be a Japanese station on the same frequency, or very close. Following is a percentage breakdown of traffic per frequency: 23 per cent on 3 megacycles 31 per cent on 6 megacycles and 46 per cent on 10 megacycles.

4. Navigational Aids: Ranges, homers and broadcast stations were used effectively. No HF/DF or VHF/DF bearings facilities were used.

5. Net Discipline and Security: Excellent net discipline and security were maintained during these missions. One aircraft used an outdated call sign and a few instances of distress traffic in the clear were the only violations of security logged on the strike frequencies. The Wing reports that during Mission 232, an unknown aircraft gave time over target, target, altitude and course on Channel "C" VHF.

6. Enemy Transmissions: The following incidents of jamming, enemy transmissions and interference were recorded during this mission:

a. 3810 Kcs:

(1) CW transmissions between 091040Z to 091710Z were ineffective.

(2) Intermittent transmissions by NPN5 were ineffective.

(3) Intermittent CW signals received throughout mission from what is believed to be a Japanese station were ineffective.

b. 6640 Kcs:

(1) The letters "BC" sent between 021130Z to 021800Z were effective.

(2) Intermittent enemy CW signals were partially effective.

c. 10965 Kcs: Negligible.

7. Distress: Only a few normal trouble messages were received during these missions. These included aircraft with one engine out and routine checks of navigation. There were no urgent bearings requested, nor transmitted, from the Wing ground station.

8. Equipment Malfunctions: SCR-522, 1 reset button inoperative, 1 transmitter inoperative; BC-348, 1 dynamotor burned out.

ANNEX

D

INTELLIGENCE

Part I - Enemy Air Opposition

Part II - Enemy Antiaircraft

Part III - Damage Assessment

Missions No. 232, 238 and 245

26/29 June and 2 July 1945

PART I - ENEMY FIGHTER REACTION

1. Summary, Mission 232, 26 June 1945

a. Fighter reaction to this, the first mission flown by the 315th Wing, was nil. A total of 13 enemy aircraft were sighted but no attacks were made.

b. One enemy aircraft was identified as a single-engine, 1 as a twin-engine airplane and 11 were unidentified.

c. The contributing factors to the lack of interception were the fact that this was a night mission and the presence of a 10/10 overcast and undercast along the route over the Empire.

2. Summary, Mission 238, 29 June 1945

a. An estimated total of 19 enemy aircraft were sighted on this mission. There were no attacks. Six fighters were identified as twin-engine, 1 listed as a Tony, 2 as single-engine aircraft, and 10 were unidentified.

b. Observations included the usual blinking of landing lights while some enemy fghters flicked cabin lights off and on. One fighter closed to 50 yards but did not open fire. This was a night mission and cloud coverage was 8/10 to 10/10.

3. Summary, Mission 245, 2 July 1945

a. This also was a night mission. A total of 11 enemy aircraft were sighted with no attacks reported. Three fighters were identified as twin-engine, 3 were identified as single-engine aircraft, and 5 interceptors were unidentified.

b. Two crews reported 2 enemy aircraft maneuvering between the B-29s and the moon. The majority of attempted approaches were from 6 o'clock. One enemy aircraft seemed to be equipped with radar since it trailed a B-29 from landfall until bombs away.

*****

PART II - ENEMY ANTIAIRCRAFT

1. Mission 232 - Utsube Oil Refinery, Yokkaichi

a. The primary target was bombed by 33 aircraft of the 315th Wing between 1335Z-1505Z from 15,000-16,000 feet. Weather was reported as 10/10 undercast with occasional holes. Axis of attack varied from 290°-330°.

b. No flak was reported en route to the target.

c. Over the target flak was described as meager, inaccurate, heavy and continuously pointed. Duration of fire was 1-3 minutes. As many as 23 S/L beams were reported in the target area, but no aircraft were coned due to cloud cover.

d. On withdrawal meager and inaccurate, heavy flak was reported from the Nagoya area. Thirty S/L beams were seen at Taketoyo (34 52 N - 136 55 E).

e. No aircraft were lost to flak on this mission, and

of 34 aircraft bombing (all targets), 1 or 2.95%, sustained flak damage.

2. Mission 238 - Nippon Oil Company, Kudamatsu Plant

a. The primary target was bombed by 32 aircraft of the 315th Wing between 1506Z-1537Z from 15,400-16,875 feet. Axis of attack varied from 36°-51°. Weather reported as 9/10-10/10 undercast.

b. Flak was nil for entire mission.

c. Searchlight locations were reported as tabulated below:

LOCATION	COORDINATES	NUMBER
Tsurumi Saki	32 56 N - 132 05 E	1
I. P.	33 34 N - 131 26 E	4
Target Area	33 59 N - 131 53 E	2
Ya Shima	33 44 N - 132 09 E	2
Kamura	33 52 N - 132 21 E	2
- - -	33 40 N - 132 30 E	1
Irino	33 01 N - 133 01 E	1

d. No aircraft were lost or damaged as a result of flak on this mission.

e. Blackout was reported as ineffective except in the immediate target area.

3. Mission 245 - Maruzen Oil Refinery, Shimotsu

a. The primary target was bombed by 39 A/C of the 315th Wing between 1508Z - 1607Z from 15,000-16,000 feet. Axis of attack varied from 26°-50°. Weather was reported as 8/10-10/10.

b. Flak was nil for the entire mission except for 1 enemy encounter of meager inaccurate, heavy flak at landfall (33 25 N - 134 00 E).

c. One searchlight was sighted at Tomioka (33 55 N 134 41 E) and 2 in the target area (34 06 N - 135 07 E).

*****

PART III - DAMAGE ASSESSMENT

1. Mission 232: Damage assessment for this mission will be found in Damage Assessment Report Number 141 which is to be included in the Tactical Mission Report for Missions Number 257 through 261.

2. Mission 238: Damage assessment for this mission was not available at the time of the writing of this report and will be included in a later report.

3. Mission 245: Damage to the Marűzen Oil Refinery, Shimotsu, as a result of this mission amounts to 54,225 square feet or 10.35 per cent of the total roof area. Additional details of the damage inflicted on this target may be found in Damage Assessment Report Number 142 which is included in the Tactical Mission Report on Missions Number 251 through 255.

ANNEX

E

CONSOLIDATED STATISTICAL SUMMARY

Missions No. 232 - 238 - 245

26, 29 June and 2 July 1945

SECRET

XXI BOMBER COMMAND

CONSOLIDATED STATISTICAL SUMMARY OF COMBAT OPERATIONS

FORM 34

MISSION NO. 232 & 238

26 & 29 June 1945

Mission #232 - 315th Wing - Utsube Oil Refinery, Yokkaichi (PV & PR)
Mission #238 - 315th Wing - Nippon Oil Co., Kudamatsu Plant (PV & PR)

EFFECTIVENESS OF MISSIONS

Aircraft Airborne 71
Percent Of Aircraft On Hand 40.6%

Aircraft Bombing Primary Target . . . 65
Percent Of Bombing Aircraft Airborne. . . . 91.5%

Bombs Dropped On Primary Targets. . . . . 431 Tons

Bombs Dropped On Other Targets. . . . . 7 Tons

Bombing Results - Radar bombing - no strike photos obtained.

COST OF MISSIONS

Aircraft Lost . . . . . None

Aircraft Damaged. 2
Percent Of Aircraft Airborne. 2.8%

Crew Member Casualties. . . . . None

Aircraft Landing At Iwo Jima. . . 1

SECRET

33RD STATISTICAL CONTROL UNIT

SECRET

MISSION _____

AIRCRAFT PARTICIPATING DATE 26 & 29 June 1945

UNIT	A/C ON HAND	A/C SCHED-ULED	A/C FAILING TO TAKE OFF	A/C AIR-BORNE	TIME OF TAKE OFF			TIME OF RETURN			A/C BOMBING PRIMARY TARGET	A/C BOMBING SECONDARY TARGET	A/C BOMBING OTHER TARGETS	A/C COMPLETING OTHER TYPE MISSIONS	TOTAL A/C EFFECTIVE	TOTAL A/C NON-EFFECTIVE
					DATE	FIRST	LAST	DATE	FIRST	LAST						
								Mission #232								
315 WG	88	38	3	35	26 June	0700 Z	0734 Z	26 June	2048 Z	2130 Z	33	-	1	-	34	1
								Mission #238								
315 WG	87	39	3	36	29 June	0730 Z	0811 Z	29 June	2045 Z	2305 Z	32	-	-	-	32	4
TOTAL	175	77	6	71							65	-	1	-	66	5

NOTE: XXI BC Field Orders No. 90 & 92 called for 36 aircraft for each mission.

Aircraft Landing At Iwo Jima:
Mission #232 - 1 aircraft.

SECRET

SECRET

BREAKDOWN OF ALL AIRCRAFT FAILING TO BOMB PRIMARY TARGET

MISSION
DATE ~~232 & 238~~ 26 & 29 June 1945

UNIT	MECHANICAL FAILURE			PERSONNEL ERROR			FLIGHT CONDITIONS			ENEMY ACTION			OTHER		
	Non-Effective	Bombed Secondary	Bombed Other	Non-Effective	Bombed Secondary	Bombed Other	Non-Effective	Bombed Secondary	Bombed Other	Non-Effective	Bombed Secondary	Bombed Other	Non-Effective	Bombed Secondary	Bombed Other
							Mission #232								
315 WG	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
							Mission #238								
315 WG	3	-	-	-	-	-	-	-	-	-	-	-	1	-	-
TOTAL	4	-	-	-	-	1	-	-	-	-	-	-	1	-	-

SECRET

SECRET

MISSION ~~292 & 298~~

DATE ~~26 & 29 June 1945~~

BOMBING RUN

UNIT	TARGET BOMBED: NAME OF TARGET	TYPE	AIRCRAFT DROPPING BOMBS	TIME OF RELEASE: EARLIEST	TIME OF RELEASE: LATEST	ALT. OF RELEASE: LOWEST	ALT. OF RELEASE: HIGHEST	TARGET VISIBLE: VISUAL SIGHTING ONLY	TARGET VISIBLE: RADAR RUN WITH VISUAL CORRECTIONS	TARGET VISIBLE: DROPPING ON LEADER	TARGET NOT VISIBLE: VIS. SIGHTING ON REFERENCE OR OFFSET PT.	TARGET NOT VISIBLE: RADAR RUN	TARGET NOT VISIBLE: DEAD RECK-ONING	TARGET NOT VISIBLE: DROPPING ON LEADER
						Mission #232								
315 WG	Utsube River Oil Refinery, Yokkaichi	P	33	1335 Z	1505 Z	15000	16000	-	3	-	-	30	-	-
	Kagata	TO	1	1415 Z	-	15400	-	-	-	-	-	1	-	-
						Mission #238								
315 WG	Nippon Oil Co., Kudamatsu	P	32	1506 Z	1537 Z	15400	16875	-	-	-	-	31	1	-
TOTAL	Primary Targets	P	65					-	3	-	-	61	1	-

SECRET

SECRET

DISPOSITION OF BOMBS

MISSION 232 & 238

DATE 26 & 29 June 1945

UNIT	TYPE & WEIGHT OF BOMB	FUZE SETTING		LOADED ON AIR-BORNE AIRCRAFT		RELEASED ON TARGETS						JETTISONED		RETURNED		UNKNOWN	
						PRIMARY				TARGET OF OPP.							
		Nose	Tail	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
						Mission #232											
315 WG	AN-M64 500# G.P.	.025	N.D.	945	236.2	891	222.8			27	6.7	27	6.7	-	-	-	-
						Mission #238											
315 WG	AN-M64 500# G.P.	.1	.01	972	243.0	834	208.5			-	-	136	34.0	2	.5	-	-
TOTAL	AN-M64 500# G.P.			1917	479.2	1725	431.3			27	6.7	163	40.7	2	.5	-	-

SECRET

SECRET

MISSION 232 & 238
DATE 26 & 29 June 1945

AIRCRAFT LOST AND DAMAGED

PERSONNEL CASUALTIES

UNIT	AIRCRAFT LOST							AIRCRAFT DAMAGED									PERSONNEL CASUALTIES				
	ENEMY A/C	ENEMY A/A	ENEMY A/C & A/A	ACC. & MECH.	OTHER	UN-KNOWN	TOTAL	ENEMY A/C	ENEMY A/A	ENEMY A/C & A/A	ACC. & MECH.	OWN GUNS	OTHER	UN-KNOWN	TOTAL MAJOR	TOTAL MINOR	TOTAL PARTICI-PATING	KILLED	MISS-ING	WOUNDED & INJURED	TOTAL CASUALTIES
										Mission #232											
315 WG							None	-	1	-	-	-	-	-	-	1	352				None
										Mission #238											
315 WG							None	-	-	-	-	-	1	-	-	1	366				None
TOTAL							None	-	1	-	-	-	1	-	-	2	718				None

SECRET

MISSIONS 232 & 238

DATES 26 & 29 June 1945

FLIGHT DATA & FUEL CONSUMPTION

MISSION NUMBER	#232	#238
UNIT	315TH WING	315TH WING
AIRCRAFT CONSIDERED	33	32
AVERAGE FLYING TIME	14:00	14:45
FUEL CONSUMED:		
Average	5421	5601
Maximum	5679	5837
Minimum	5105	5207
FUEL REMAINING:		
Average	1320	1181
Maximum	1705	1578
Minimum	1091	948
AVERAGE GALLONS USED PER HOUR	387.2	379.7
TOTAL FUEL USED ON AIRBORNE A/C	184141	192444

WEIGHT DATA

NUMBER AIRCRAFT AIRBORNE	35	36
AVERAGE BASIC WEIGHT OF AIRCRAFT	71612	71599
AVERAGE USEFUL LOAD	60397	60225
AVERAGE NUMBER OF BOMBS LOADED	27-M64(Comp B) 16 A/C 27-M64 (TNT) 19 A/C	27-M64(Comp B) 18 A/C 27-M64 (TNT) 18 A/C
AVERAGE WEIGHT OF BOMBS LOADED	14631	14647
AVERAGE FUEL LOADED	6785	6785
AVERAGE WEIGHT OF FUEL LOADED	40710	40710
AVERAGE MISCELLANEOUS WEIGHT	5056	4868
AVERAGE GROSS WEIGHT AT TAKE OFF	132009	131824

Bomb Weights: AN-M64 - TNT - 535 lbs.
AN-M64 - Comp B - 550 lbs.

SECRET

XXI BOMBER COMMAND

CONSOLIDATED STATISTICAL SUMMARY OF COMBAT OPERATIONS

FORM 34

MISSION NO. 245

2 July 1945

MARUZEN OIL REFINERY, MINOSHIMA, JAPAN

EFFECTIVENESS OF MISSION

Aircraft Airborne	40	
Percent of Aircraft On Hand		46.0%
Aircraft Bombing Primary Target	39	
Percent Of Bombing Aircraft Airborne		97.5%
Bombs Dropped On Primary Target	297 tons	
Bombs Dropped On Other Targets	8 tons	

Bombing Results - Preliminary reports indicate good results.

COST OF MISSION

Aircraft Lost	None	
Aircraft Damaged	1	
Percent Of Aircraft Airborne		2.5%
Crew Member Casualties	None	
Aircraft Landing At Iwo Jima	2	

SECRET

ISSUED 10 JULY 1945
33RD STATISTICAL CONTROL UNIT

SECRET

AIRCRAFT PARTICIPATING

MISSION 245
DATE 2 July 1945

UNIT	A/C ON HAND	A/C SCHED-ULED	A/C FAILING TO TAKE OFF	A/C AIR-BORNE	TIME OF TAKE OFF			TIME OF RETURN			A/C BOMBING PRIMARY TARGET	A/C BOMBING SECONDARY TARGET	A/C BOMBING OTHER TARGETS		TOTAL A/C EFFECTIVE	TOTAL A/C NON-EFFECTIVE
					DATE	FIRST	LAST	DATE	FIRST	LAST						
315TH WING	87	41	1	40	2 Jul	0730 Z	0833 Z	2 Jul	2030 Z	2230 Z	39	-	1	-	40	-

SECRET

SECRET

MISSION 245
DATE 2 July 1945

BREAKDOWN OF ALL AIRCRAFT FAILING TO BOMB PRIMARY TARGET

UNIT	MECHANICAL FAILURE			PERSONNEL ERROR			FLIGHT CONDITIONS			ENEMY ACTION			OTHER		
	Non-Effective	Bombed Secondary	Bombed Other	Non-Effective	Bombed Secondary	Bombed Other	Non-Effective	Bombed Secondary	Bombed Other	Non-Effective	Bombed Secondary	Bombed Other	Non-Effective	Bombed Secondary	Bombed Other
315TH WING	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-

SECRET

SECRET

MISSION 245

DISPOSITION OF BOMBS

DATE 2 July 1945

UNIT	TYPE & WEIGHT OF BOMB	FUZE SETTING		LOADED ON AIR-BORNE AIRCRAFT		RELEASED ON TARGETS						JETTISONED		RETURNED		UNKNOWN	
						PRIMARY				TARGET OF OPP.							
		Nose	Tail	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
315TH WING	AN-M64 500# G.P.	.025	Inst.	1240	310.0	1187	296.7			32	8.0	17	4.3	4	1.0		

SECRET

SECRET

MISSION 245
DATE ~~2 July 1945~~

AIRCRAFT LOST AND DAMAGED - PERSONNEL CASUALTIES

UNIT	AIRCRAFT LOST							AIRCRAFT DAMAGED									PERSONNEL CASUALTIES				
	ENEMY A/C	ENEMY A/A	ENEMY A/C & A/A	ACC. & MECH	OTHER	UN-KNOWN	TOTAL	ENEMY A/C	ENEMY A/A	ENEMY A/C & A/A	ACC. & MECH	OWN GUNS	OTHER	UN-KNOWN	TOTAL MAJOR	TOTAL MINOR	TOTAL PARTICI-PATING	KILLED	MISS-ING	WOUNDED & INJURED	TOTAL CASUALTIES
315TH WING							None							1			1 407				None

SECRET

SECRET

MISSION 242

DATE 2 July 1945

ENEMY OPPOSITION AND AMMUNITION EXPENDITURE

UNIT	ENEMY A/C SIGHTED	ATTACKS BY E/A	ENEMY A/C DESTROYED & DAMAGED				50 CALIBER AMMUNITION EXPENDITURE				
			TYPE OR MODEL	DES-TROYED	PROB. DESTR'D	DAMAGED	FIRED IN COMBAT	TEST FIRED	JETTISONED	ON LOST A/C	TOTAL
315TH WING	11	-	-	-	-	-	-	2440	-	-	2440

SECRET

MISSION 245

DATE 2 July 1945

FLIGHT DATA & FUEL CONSUMPTION

MISSION NUMBER	#245
UNIT	315TH WING
AIRCRAFT CONSIDERED	38
AVERAGE FLYING TIME	13:32
FUEL CONSUMED:	
Average	5536
Maximum	5917
Minimum	5140
FUEL REMAINING:	
Average	1230
Maximum	1645
Minimum	853
AVG. GALS. USED PER HOUR	409.2
TOTAL USED ON AIRBORNE AIRCRAFT	215460

WEIGHT DATA

NUMBER AIRCRAFT AIRBORNE	40
AVG. BASIC WEIGHT OF AIRCRAFT	71592
AVERAGE USEFUL LOAD	61681
AVG. NUMBER OF BOMBS LOADED	15.9-M64 (Comp B) 15.1-M64 (TNT)
AVG. WT. OF BOMBS LOADED	16823
AVG. FUEL LOADED	6743
AVG. WT. OF FUEL LOADED	40455
AVG. MISC. WEIGHT	4403
AVG. GROSS WT. AT TAKE OFF	133273

Bomb Weight:
AN-M64 (TNT) - 535 lbs.
AN-M64 (Comp B) - 550 lbs.

ANNEX

F

XXI BOMBER COMMAND FIELD ORDER

Missions No. 232 - 238 - 245

26, 29 June and 2 July 1945

FROM: COMGENBOMCOM 21

TO: COMGENBOMWG 58
COMGENBOMWG 73
COMGENBOMWG 313
COMGENBOMWG 314
COMGENBOMWG 315

INFO: CO3RD PHOTO

SECRET

By Auth of CG XXI BC

Initials Date

XXI BOMBER COMMAND
GUAM
1000 29 JUNE 1945

FIELD ORDER NUMBER 90

Maps for Plotting: Japan Aviation Chart 1:218,880

1. Fighter escort will be furnished for this mission, two groups covering the Nagoya area and one group covering the Osaka Area.

2. The XXI Bom Com attacks targets 1833, 273A, 382, 1729, 1547, 196, 197, 240. 2040. 1684, employing four groups of the 58th, 73rd, 314th Wings, three groups of the 313th Wing and 2 groups of the 315th Wing.

3. a. 58th Wing:

(1) Target: Primary Visual and Radar - 90.25 - 263A - Sumitomo Light Metal Industry.

(a) MPI FORCE

039082 2 Groups

(b) Reference: XXI Bom Com Litho-Mosaic Osaka Area 90.25 Urban.

(c) Route: Base
Iwo Jima
Reassembly Area (3330N - 13515E)
3353N - 13503E (Departure Point)
3416N - 13504E (IP)
Target
3455N - 13526E
3455N - 13538E
Iwo Jima
Base

(d) Altitude of attack: 18,000 feet.

(e) Bomb load: 4,000 lb LC fused instantaneous nose and non-delay tail.

(f) Time Control: Pass departure point at D Hour plus 50 min.

(2) Target: Primary Visual - 90.20 - 1833

(a) MPI FORCE

089069 1 Group
074068 1 Group

(b) Reference: XXI Bom Com Litho Mosaic Kagamagihara Area, Kawasaki Aircraft Works 90.20 - 240.

(c) Primary Radar and Secondary Visual Target: City of Tsu, using 3439N - 13713E as IP.

(d) Route: Base
Iwo Jima
Reassembly Area (3330N - 13575E)
3458N - 13555E (Departure Point)
351630N - 13601E (IP)

FIELD ORDER NUMBER 90 CONTINUED

Target
3520N - 13710E
3437N - 13717E
Iwo Jima
Base

(e) Altitude of attack: 15,000 feet.

(f) Bomb load: 500 lb GP's fused instantaneous nose and non-delay tail.

(g) Time Control: Pass departure point at D Hour plus 24 min.

(3) Altitude enroute: 2,000 - 2,800 and 6,000 - 6,800 feet.

(4) Method of attack: Column of squadrons.

b. 73rd Wing:

(1) Target: Primary Visual and Radar - 90.25 - 382 - Osaka Army Arsenal.

(a) MPI — FORCE

121106 — 3 Groups
118112 — 1 Group

(b) Reference: XXI Bom Com Litho-Mosaic 90.25 Urban.

(c) Route: Base
Iwo Jima
Reassembly Area (3315N - 13425E)
3357N - 13443E (Departure Point)
3416N - 13504E (IP)
Target
3441N - 13545E
Iwo Jima
Base

(d) Altitude of attack: 19,000 feet.

(e) Bomb load: 2,000 lb GP's fused 1/40 nose and 1/40 tail with minimum intervalometer setting.

(f) Time Control: Pass Departure Point at D Hour plus 30 min.

(g) Altitude enroute: 3,000 - 3,800 and 7,000 - 7,800 feet.

c. 313th Wing:

(1) Target: Primary Visual and Radar - 90.25 - 1547 - Kawasaki Aircraft Company.

(a) MPI — FORCE

081046 — 1 Group

(b) Reference: XXI Bom Com Litho-Mosaic Akashi Area.

(c) Route: Base
Iwo Jima
Reassembly Area (3320N - 13340E)
3331N - 13346E (Departure Point)
3419N - 13441E (IP)
Target
3450N - 13503E
3458N - 13430E
Iwo Jima
Base

FIELD ORDER NUMBER 90 CONTINUED

(d) Altitude of attack: 15,000 feet.

(e) Bomb load: 4,000 lb LC's fused instantaneous nosé and non-delay tail.

(f) Time Control: Pass departure point at D Hour plus 30 min.

(2) Target: Primary Visual and Radar Target 90.20 - 1729.

(a) MPI FORCE

033063 2 Groups

(b) Reference: XXI Bom Com Litho-Mosaic 90.20 - 194

(c) Route: Base
Iwo Jima
Reassembly Area (3320N - 13605E)
3458N - 13555E (Departure Point)
3509N - 13606E (IP)
Target
Right Turn
3438N - 13717E
Iwo Jima
Base

(d) Altitude of attack: 18,000 feet.

(e) Bomb load: 2,000 lb GP's fused 1/100 nose and non-delay tail.

(f) Time Control: Pass departure point at D Hour plus 12 min.

(3) Altitude enroute: 4,000 - 4,800 and 8,000 - 8,800 feet.

(4) Method of attack: Column of squadrons.

d. 314th Wing:

(1) Target: Primary Visual Target No. 90.20 - 240.

(a) MPI FORCE

080078 1 Group

(b) Reference: XXI Bom Com Litho Mosaic Kagamagihara Area, Kawasaki Aircraft Works, 90.20 - 240.

(c) Primary Radar and Secondary Visual Target: City of Tsu using 3439N - 13713E as an IP.

(d) Route: Base
Iwo Jima
Reassembly Area (3358N - 13616E)
3458N - 13555E (Departure Point)
351630N - 13601E (IP)
Target
3520N - 13710E
3437N - 13717E
Iwo Jima
Base

(e) Altitude of attack: 16,000 feet.

(f) Bomb load: 500 lb GP's fused instantaneous nose and non-delay tail.

(g) Time Control: Pass departure point at D Hour plus 20 min.

FIELD ORDER NUMBER 90 CONTINUED

(2) Target: Primary Visual Target 90.25 - 197 - 241 Atsuta Factory Nagoya Arsenal, Nippon Vehicle Co.

(a) MPI — FORCE

123032 — 1 Group

(b) Reference: XXI Bom Com Litho-Mosaic Nagoya area, Nagoya Arsenal - Atsuta Plant No. 90.20 - 197.

(c) Secondary Visual and Primary Radar - City of Tsu using 3439N - 13713E as an IP.

(d) Route: Base
Iwo Jima
Reassembly Area (3358N - 13616E)
3458N - 13555E (Departure Point)
3509N - 13606E (IP)
Target
3503N - 13704E
3438N - 13717E
Iwo Jima
Base

(e) Altitude of attack: 18,000 feet.

(f) Bomb load: 500 lb GP's fused 1/40 nose and non-delay tail.

(g) Time Control: Passes departure point at D Hour plus 4 min.

(3) Primary Visual Target 90.20 - 196 Chigura Factory Nagoya Arsenal.

(a) MPI — FORCE

076032 — 1 Group

(b) Reference: XXI Bom Com Litho-Mosaic Nagoya Area 90.20 - 193.

(c) Secondary Visual and primary radar - City of Tsu using 3439N - 13713E as an IP.

(d) Route: Base
Iwo Jima
Reassembly Area (3358N - 13616E)
3458N - 13555E (Departure Point)
3509N - 13606E (IP)
Target
3505N - 13707E
3438N - 13717E
Iwo Jima
Base

(e) Altitude of attack: 18,000 feet.

(f) Bomb load: 500 lb GP's fused 1/40 nose and non-delay tail.

(g) Time Control: Pass Departure point at D Hour.

(4) Primary Visual and Radar Target No. 90.20 - 2040.

(a) MPI — FORCE

073073 — 1 Group

(b) Reference: XXI Bom Com Litho-Mosaic Nagoya Area - Aichi Aircraft Works Atsuta Plant 90.20 - 198.

FIELD ORDER NUMBER 90 CONTINUED

(c) Route: Base
Iwo Jima
Reassembly Area (3358N - 13616E)
3458N - 13555E (Departure Point)
3509N - 13606E (IP)
Target
Right Turn
3438N - 13717E
Iwo Jima
Base

(d) Altitude of attack: 19,000 feet.

(e) Bomb load: 500 lb GP's fused 1/40 nose and non-delay tail.

(f) Time Control: Passes Departure point at D Hour plus 8 min.

(5) Altitude enroute: 5,000 - 5,800 and 9,000 - 9,800 feet.

(6) Method of attack: Column of squadrons.

e. 315th Wing:

(1) Primary Visual and Radar Target - 90.20 - 1684 - The Utsube River Oil Refinery.

(a) MPI FORCE

068019 36 aircraft

(b) Reference: XXI Bom Com Litho-Mosaic Yokkaichi Area - Utsube River Oil Refinery 90.20 - 1684.

(c) Route: Base
Iwo Jima
343430N - 13710E (IP)
Target
Left turn avoiding flak area
Iwo Jima
Base

(d) Altitude of attack: 15,000 feet base.

(e) Bomb load: 500 lb GP's fused 1/40 nose and non-delay tail.

(f) Time Control: Zero Hour is 261700K.

(g) Method of attack: Individual aircraft.

(h) Altitude enroute: 7,000 - 7,800 and 9,000 - 9,800 feet.

x. D Day and D Hour: 261800K.

4. a. No change.

b. Tactical Mission Number:
196 - 226
197 - 227
2040 - 230
1729 - 229
240 - 231
1833 - 228
1547 - 225
382 - 224
263A - 223
1684 - 232

5. Communications:

FIELD ORDER NUMBER 90 CONTINUED

a. (1) XXI Bom Com SOI and SOP for strike reports, contact reports and IFF procedures.

(2) Each flight squadron will be equipped to barrage jamm the region 190-210 megacycles.

(3) Observations of the extent and reliability of the barrage will be made while over the target.

(4) Spot jamming will be conducted over the frequency ranges 180-190 and 210-220 megacycles, as desired by the wing RCM officer and as governed by the capability of each wing.

(5) Jammers will be kept in operation at all times when closer than 50 miles to Honshu, and will be turned off at all other times, except for preflight and postflight frequency checks which are to be made on the ground while the jammers are installed in the airplanes.

James W Schonlau
for

KISSNER
COM GEN XXI BOM COM

MONTGOMERY
D/OPNS

DISTRIBUTION: 2 Ea Wing

SECRET
Auth: CG XXI BC
Initials: W.E.
Date: 29 June 1945

FIELD ORDERS)
:
NUMBER 90)

XXI BOMBER COMMAND
GUAM
29 June 1945 - 1100K

Amendment Number 1, Field Orders Number 90.

Change target 273A in paragraph 2 to read: 263A.

Change target number in paragraph 3d (2) to read:

(2) Primary visual target: 90.20 - 197/241, ATSUTA FACTORY, NAGOYA ARSENAL, NIPPON VEHICLE CO.

BY COMMAND OF MAJOR GENERAL LeMAY:

A W KISSNER
Brigadier General, USA
Chief of Staff

OFFICIAL:

JOHN B MONTGOMERY
Colonel, G. S. C.
D C/S, Operations

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1 - Communications, XXI BC
1 - OAS, XXI BC
2 - CIU, XXI BC
1 - A-2 Reporting, XXI BC
4 - A-2, XXI BC

486/1

FROM: COMGENBOMCOM 21

TO : COMGENBOMWG 315

INFO: COMGENBOMWG 58
COMGENBOMWG 73
COMGENBOMWG 313
COMGENBOMWG 314

S E C R E T

By Auth of CG XXI BC

Initials Date

XXI BOMBER COMMAND
GUAM
1800K 28 JUNE 1945

FIELD ORDER NUMBER 92

1. Omitted.

2. The XXI Bomber Command attacks target 90.32 - 672 employing 36 aircraft of the 315th Bomb Wing.

3. a. Omitted.

b. Omitted.

c. Omitted.

d. Omitted.

e. 315th Wing:

(1) Primary Target: 90.32 - 672, Kudomatso Plant of Nippon Oil Co.

(a) MPI — Force Required

048016 — 36 A/C (315th Wing)

(b) Reference: XXI BomCom Litho-Mosaic Tokuyama Approach.

(2) Route:

Base
Iwo Jima
3255N - 13205E
3334N - 13126E (IP)
Target
330130N - 13306E
Iwo Jima
Base

(3) Altitude of Attack: 15,000 feet to 16,000 feet.

(4) Bomb Load: 500 lb GP's fused 1/10 nose , 1/100 tail.

(5) Altitudes Enroute to Target: 5,000 feet to 5,800 feet.
7,000 feet to 7,800 feet.

(6) Method of Attack: By individual aircraft employing direct synchronous radar bombing. Strike will be compressed into shortest time practical.

(7) D-Day and Zero Hour: 291730K.

FIELD ORDER NUMBER 92 CONTINUED

x. Omitted.

4. a. No change.

b. Tactical Mission Number 238.

5. a. XXI BomCom SOI and SOP for strike reports, contact reports, and IFF procedure.

KISSNER
COMGENBOMCOM 21

MONTGOMERY
D/OPNS

DISTRIBUTION: 2 ea wg.

FROM: COMGENBOMCOM 21

TO: COMGENBOMWG 315

INFO: COMGENBOMWG 58
COMGENBOMWG 73
COMGENBOMWG 313
COMGENBOMWG 314
CO3RD PHOTO

SECRET

By Auth of CG XXI BC

Initials Date 2 Jul 45

XXI BOMBER COMMAND
GUAM
1200K 2 July 1945

FIELD ORDER NUMBER 94.

1. Omitted.

2. The XXI Bom Com attacks target number 90.25-1764, the Maruzen Oil Refinery, employing a minimum of 36 aircraft of the 315th Bomb Wing.

3. a.)
b.)
c.)
d.) Omitted.

e. The 315th Wing:

(1) Primary Target: Number 90.25 Maruzen Oil Refinery.

(a) MPI — FORCE REQUIRED

126093 — 36 Aircraft (Minimum)

(b) Reference: XXI Bom Com Litho Mosaic Wakayama Area, Maruzen Oil Refinery 90.25-1764.

(2) Route: Base
Iwo Jima
3322N - 13403E
3350N - 1344430E (IP)
Target
3335N - 13557E
Iwo Jima
Base

(3) Altitude of Attack: 15,000 to 16,000 feet.

(4) Bomb Load: 500 lb GP's fused 1/40 nose and non delay tail with minimum intervalometer setting.

(5) Altitude Enroute: 5000-5800 and 7000-78000 feet.

(6) Method of Attack: By individual aircraft employing direct synchronous radar bombing.

(7) D-Day and Zero-Hour: 021730K.

x. Omitted.

4. a. No change.

b. Tactical Mission Number 245.

5. XXI Bom Com SOI and SOP for strike reports, contact reports and IFF procedure.

KISSNER
COMGENBOMCOM 21

James W Schonlau
MONTGOMERY
D/OPNS

DISTRIBUTION: 2 ea Wing.

ANNEX

G

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Missions No. 232 - 238 - 245

26, 29 June and 2 July 1945

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75	AC of S, A-2, Twentieth Air Force
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77	Ordnance Officer, Twentieth Air Force
78	Director of Tactics, A-3, Twentieth Air Force
79 - 80	Historical Officer, Twentieth Air Force

81	Commanding General, 58th Bombardment Wing
82	Commanding General, 73rd Bombardment Wing
83	Commanding General, 313th Bombardment Wing
84	Commanding General, 314th Bombardment Wing
85	Commanding General, 315th Bombardment Wing
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87	Commanding Officer, 41st Photo Reconnaissance Sq
88	Commanding Officer, 55th Reconnaissance Sq, Long Range Weather
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92	Commanding Officer, 9th Bomb Group (VH)
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94	Commanding Officer, 19th Bomb Group (VH)
95	Commanding Officer, 29th Bomb Group (VH)
96	Commanding Officer, 39th Bomb Group (VH)
97	Commanding Officer, 40th Bomb Group (VH)
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99	Commanding Officer, 331st Bomb Group (VH)
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101	Commanding Officer, 462nd Bomb Group (VH)
102	Commanding Officer, 468th Bomb Group (VH)
103	Commanding Officer, 497th Bomb Group (VH)
104	Commanding Officer, 498th Bomb Group (VH)
105	Commanding Officer, 499th Bomb Group (VH)
106	Commanding Officer, 500th Bomb Group (VH)
107	Commanding Officer, 501st Bomb Group (VH)
108	Commanding Officer, 502nd Bomb Group (VH)
109	Commanding Officer, 504th Bomb Group (VH)
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