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[1]

DAMAGED JAP AUXILIARY IN MANILA DRYDOCK

When carrier planes from the USS ESSEX (CV-9) joined Third Fleet strikes on MANILA Bay on 22 September, they photographed a damaged Jap ship with stern awash in a floating drydock just outside the breakwater. This vessel was possibly the ship first believed to be a cruiser or even a battleship, although subsequent photo interpretation indicates that it is an engine-aft Naval auxiliary, probably a repair ship or tender. Based on measurements of the Dewey Dock, the only floating drydock known to be in MANILA, the damaged ship has an overall length of 350 feet and a beam of 48 feet. In lines but not in size it resembles the former AS TSURABASAKI (before conversion to the CV SHOHO) and the AR AKASHI, which was sunk at PALAU.

The deck is flush and rounded, with a cruiser stern. The bridge is forward, similar to that of the AKASHI. A single shielded gun, probably 5-inch, is forward of the bridge. Two AA mounts are on each side of the bridge, and two more are on the after superstructure. The amidships section is free of superstructure. The large single stack is aft. A four-sided pylon-type foremast is immediately aft the bridge superstructure, with two of the mast booms built into the bridge itself. Two heavy kingposts are aft of the stack. Aft of the kingposts appears a long rectangular open hatch; a gun may have been removed from this location. There is a probable crane amidships immediately aft of the foremast.

The Dewey floating drydock (YFD-1) was built in the U. S. in 1905 and towed to MANILA, and can handle ships up to cruiser size. The inside (floor) measurements of this dock are 500 feet by 99 feet, with a 30 foot clearance above the keel blocks. In the photograph, the dock appears to have been submerged for protection. Reports have not yet been received indicating damage to the drydock, although aviators from the HORNET claim at least three effective hits in the area.

(The photograph referred to in the foregoing paragraph, being of a Dewey floating drydock which was built in the U. S. in 1905 and

towed to Manila, will be found reproduced as Item No. 38, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[2]

JAP MIDGET SUBS

Japanese midget subs may be expected in number as Allied forces push westward into the restricted waters adjacent to the PHILIPPINES, NANSEI SHOTO, and FORMOSA. Evidence that the enemy continues to operate these widely-publicized units was obtained when a hastily-scuttled boat was discovered and salvaged at SAIPAN. Another harbinger of midget subs to be encountered was early dispatch information from Third Fleet carrier planes, which claim to have sunk four such subs during the recent OKINAWA strike.

The tactical situation has restricted JAPAN's use of the midget sub during the past two years. (The use of the midget sub in the European theater is well known.) There is no concrete evidence that JAPAN has had units in combat zones since 7 December 1942, when a large U. S. cargo vessel was damaged and beached by a midget sub near GUADALCANAL. Aviators have reported possible midget subs in the South Pacific, but there sightings have never been confirmed.

In the early months of the war, midget boats were reported in almost every theater—KISKA, HAWAII, GUADALCANAL, AUSTRALIA, and MADAGASCAR. While the boxscore of ships damaged or sunk by these subs is not impressive, it includes a battleship damaged and a tanker sunk (in addition to the AK in the SOLOMONS); and one very narrow escape of a cruiser in SYDNEY Harbor in May 1942. Six of the two-man subs are known to have been sunk.

The PHILIPPINES area offers the midget sub far more favorable operating conditions than has hitherto been the case. The restricted waters will reduce the maneuverability of his targets, and hamper the effectiveness of our ASW vessels. The indentations of the coast offer adequate concealment. At the same time, the distance from base is greatly reduced.

One type of midget sub is designed to be launched from a "mother ship", another is carried as special equipment aboard a mother sub.

The sub-borne midgets are carried on the deck of the parent sub, secured by four heavy clamps and one supplementary clamp. An access hatch in the midget is designed to make a watertight fit into the deck hatch of the mother. The two are linked by telephone wires and battery-charging leads. In casting off, the mother sub releases the four main clamps while the supplementary clamp is released by the midget.

Ship-borne midget subs have been carried in the holds of certain seaplane carriers specially equipped for this purpose. This equipment includes a large hold, equipped with four sets of 6-ft. 8-in. tracks running lengthwise through the hold, and two cranes capable of lifting the 44-ton midget.

Midget subs vary in size from the 41-foot Pearl Harbor type to the 82-foot KO HYOTEKI type. This sub has a theoretical maximum surface speed of 24 knots for a brief time, and has a reported cruising range of 175-180 miles at 4 to 6 knots. Two 18-inch torpedoes are carried. For full details see ONI 220-J "Japanese Submarines".

[3] In at least one case a Jap cargo tube was mistaken for a midget sub. This tube, which was probably used to deliver supplies to beleaguered garrisons ("Weekly Intelligence", Vol. 1., No. 7) was similar in size and shape to the submarine, but had less taper forward and had a raised hatch forward and one amidships, rather than the single streamlined conning tower of the sub.

The doctrine for use of Jap midget subs is indicated in a translation of the orders found in the midget salvaged at GUADALCANAL on 7 May 1943 (SOPAC Item No. 607). Excerpts from this document follow:

Plan of attack against anchored Enemy Warships for the KO HYOTEKI (2 man sub) TAI based at GUADALCANAL.

The Time for Resolute Attack!

If a powerful ship or transport should enter and anchor, the resolute attack will be executed immediately. In view of the present enemy situation, there will be more daytime attacks. However, even at night, aggressive attacks will be executed against the powerful enemy if the condition of the moon and the weather permits.

Select a time for attack on an enemy ship when its defense is most awkward, such as while it is in the midst of unloading cargo.

Upon receiving a report that the enemy has been discovered, the attack will be carried out with the least possible delay. Do not lose your opportunity (to

attack) because you vainly delayed and thereby allowed the enemy to escape into a strongly defended harbor.

Two HYOTEKI's (midget subs) will customarily be used against a powerful enemy ship. Four or more will not ordinarily be used simultaneously at one spot. When completely submerged, it is essential that a maximum depth be maintained.

Take the shortest course (to the point of attack). After completion of attack, HYOTEKI's must take a suitable circuitous route, while avoiding the enemy, and executing deceptive maneuvers.

It is essential that the attack be carried out from a firing position which is sufficiently close to ensure a direct hit. The basic firing position is from 70°-110° at 500 meters.

It is essential to pick out the most powerful ship or transport. However, if in order to do this you vainly delay your fire, you may lose the (chance to) attack due to enemy counter-measures, or impede the attack of the other HYOTEKI's.

When you receive interference from any enemy anchorage patrol boat, it is permissible to use some torpedoes, depending upon the situation. After having fired, submerge quickly to a deep depth and follow the action outlined in (3) of Article III.

[4] When it becomes impossible to return to the Base, return to, and land at territory occupied by friendly troops. Then tow the HYOTEKI quickly to the Base when possible. Otherwise, take quick and proper measures so that the HYOTEKI will not fall into the hands of the enemy.

After the HYOTEKI's depart, the Base will always stand by to receive (messages). It is essential that HYOTEKI's select the proper opportunity to send messages depending upon the situation of the enemy.

Evasive Action by Midget Sub while on Attack Mission.

(Comment: The translation of the next few paragraphs is not clear, but apparently refers to evasive action to be taken by the midget sub *after it has been launched from the base on an attack mission*. The document goes on to state that the sub will flood all tanks at once under this circumstance, and submerge to 50 meters or deeper, "utilizing the manual steering gear". It will then allegedly evade by turning to right angles from its original course. The midget sub is then to return to its base, taking precautions to avoid discovery.)

Measures for the Prevention of Damage while Waiting at the Base

When it is probable that there will be an enemy attack while moored at the Base, HYOTEKI's will submerge to the bottom immediately. They will surface when there is no further danger of attack, if it is easy to form an estimate of the outside situation from the inside of the submarine; if not, they will receive instructions for surfacing one hour after submerging.

Depending upon the enemy situation, it may have to remain submerged at the bottom daily from 30 minutes before sunrise until dusk.

Whatever enemy interference you encounter after leaving the Base, carry out your attack. After it is finished, do not uselessly throw away your lives but do your utmost to seek a means of escape and endeavor to return. Such as these are truly brave men and are faithful to the cause of their country.

Radio Equipment on the HYOTEKI's.

(The HYOTEKI's) are equipped with one type 97 Experimental Short Wave Radio Set (range approximately 50 nautical miles). Frequency Band, 8,000 kc. to 10,000 kc.

Crystal Sizes—8590 ck., 8905 kc., 9365 kc. (there is a separate set (of crystals) for sending and receiving on each of the above (frequencies)).

(At this point in Exhibit No. 5 there appear two photographs showing strafing by planes of the *USS Independence* of an enemy AK and an Enemy Patrol Craft. These photographs will be found reproduced as Item No. 39, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[6]

YAMATO CLASS BATTLESHIP

The YAMATO and MUSASHI, newest battlewagons in the Jap Navy, have long been mystery ships, even to Jap Naval personnel. For security reasons, even official Jap NAIREI appear to have been published with incorrect figures on characteristics and capabilities of these ships. Rumors have been rife on

tonnage, armament, and equipment aboard both BBs. The sketch on the facing page represents the impressions of an intelligent prisoner who is believed to be fairly reliable. It was drawn after close collaboration between the POW and draftsman. Pending further photographic or documentary evidence, the sketch must be evaluated as unverified information from an enemy source.

(The sketch of a *Yamato* class battleship, referred to in the foregoing paragraph, will be found reproduced as Item No. 40, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

The prisoner, who served aboard the *YAMATO* and *MUSASHI* for a total period of 13 months, claims that the ships are almost identical. The flag of CinC Combined was reportedly on board first the former and then the latter, prior to the recent move to the new *CL OYODO*.

On the controversial subject of main batteries, the POW confirmed the reported triple mounts, but insisted that the guns were 45 cm (17.7") rather than 40 cm (15.7"). The size and calibre of these guns has long been subject to speculation. The POW claimed that projectiles for these guns stand six feet high, as compared with the *NAGATO*'s projectiles, which stand 5'6". Ammunition ordered for the *YAMATO* and *MUSASHI* is assertedly "40 cm, Type 2" rather than "40 cm, Type 1". According to the POW, this indicates 45 cm ammunition. The prisoner added that a standing joke among CPOs aboard the *YAMATO* concerned the remark to boots that these guns "are the largest 40 cm guns in the Jap Navy".

The secondary battery consists of twelve 15.5 cm (6") in triple mounts, as shown in the sketch. Heavy AA armament is made up of six dual-mounted 12.7 (5") DP guns, three on each side. There are "many" 25 and 40 mm mounts. Some of the 40 mm guns are in triple mounts. The prisoner insisted that the 40 mm AA on the main deck were (as shown) without added protection.

Another controversial subject discussed by the prisoner was the reported pair of tunnel-shaped compartments on either side of the stern, which have variously been reported as housing subs and PT boats. The POW stated that each tunnel was designed for two midget subs. He said that he had never heard of these subs actually being carried, and that he had no idea how they would be launched. (It will be seen that the funnels are well above water-line). While the prisoner was aboard both new BBs, the compartments were used for storage space—including CinC Combined beer.

Two elevators are allegedly installed on each side of the foremast tower, capable of carrying three or four men. All ships' boats are carried aft in the passageway space directly under the catapults. The space in the hangar is large enough (the POW said) for eight planes with wings folded, but he had seen no more than three carried. At full speed, the POW stated, the *YAMATO* was capable of 26.5 knots. He added the following details:

Length—886 ft; Beam—114.8 ft; Tonnage—55,000; Speed—26.5 kts; Draft—30.2 ft; Main battery—9 x 45 cm (17.7"); Secondary battery—12 x 15.5 cm (6"); AA Battery—12 x 12.7 cm (5"); Horsepower—90,000.

JAP INFLUENCE GROUND MINES

A new type of mine threat to U. S. ships is indicated in the photograph of a Jap minelayer seen on the opposite page. Three influence ground mines are identifiable on the starboard track and three others inboard. Although no such mines have as yet been encountered by our forces, the photograph—coupled with documentary evidence—proves that the standard type of Japanese influence ground mine (known as Type 3) is in the forward areas.

(A photograph of a *Toshima* class Japanese Minelayer with Influence Ground Mines, referred to in the foregoing paragraph, will be found reproduced as Item No. 41, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

The photograph and a preliminary report of this mine were included in Intelligence Bulletin 14-44, distributed on 6 October by the Seventh Fleet Intelligence Center. The minelayer was identified by SEFIC as of the *TOSHIMA* Class. The photograph was taken on 22 August off NGARUANL Reef (PALAU) by a PB4Y of TF 73.

Characteristics of a Type 3 ground mine were contained in a captured Japanese

notebook which is believed fairly reliable: Overall length—11 ft., 2 inches; Diameter—21 inches; Total weight—2398 pounds; Weight of charge—1950 pounds; Maximum depth of water for laying—100 feet; Minimum counter-mining distance—560 feet.

The notebook has been translated as CINCPAC-CINCPOA Item No. 10368-B. This document has not yet been published, but data on the mine was disseminated by the Mobile Explosives Investigation Unit #4 as Intelligence Report No. 10.

Although smaller, dimensions of the mine photographed here appear roughly similar to those of the mine described in the document. The mines photographed may be a smaller model of the prototype, or the disparity in length may be caused by the fact that the mines are being shipped without the parachute housing attached.

By virtue of its large charge, a ground mine need not fire on contact with the skin of a ship, but—being fired on the bottom by the magnetic or acoustic field of a target—will tend to break the ship's back or at least shatter all castings and pipes. Mines of this type are usually laid with parachute by aircraft at minimum altitude, but may be laid equally well by submarines or surface craft.

Development of a sure sweeping technique for such mines requires laboratory analysis of the firing mechanism to determine its selection of targets and possibilities of laying dormant over an extended period. Mine Disposal Units in forward areas are equipped to recover and disassemble new mines for return to technicians.

JAP PC On the following page is a profile and plan view of a 170-foot Jap PC photographed at CHICHI JIMA by ENTERPRISE planes on 1 September. This vessel very closely resembles the 200-foot PC-13 Class as described in ONI 222-J, although there is a length differential of 30 feet and the PC shown in the sketch has added AA and depth-charge equipment. Reports from the South Pacific of patrol craft, described as of the PC-13 Class, cite lengths varying from 160 to more than 200 feet.

(The profile and plan view of a 170-foot Jap PC, referred to in the foregoing paragraph, will be found reproduced as Item No. 42, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

(At this point in Exhibit No. 5, there appears a sketch map captioned "Submarine Situation, Oct. 9-Oct. 15" and bearing notation "Sightings in the Western NEW GUINEA-MOLUCCAS areas indicate the submarine concentration in the PALAU-MINDANAO region has moved southward". This map will be found reproduced as Item No. 43, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[12]

THUMBNAIL BIOGRAPHIES OF JAPANESE AIRCRAFT

OSCAR

(Seventh in a series reviewing the background of important Japanese aircraft)

The stubborn persistence of a poorly conceived airplane design is well illustrated by OSCAR, the Japanese Army's Type 1 fighter.

(A photograph referring to the foregoing paragraph, being of an "OSCAR" Model 1, the Japanese Army Type 1 fighter, will be found reproduced as Item No. 44 EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This plane, development of which has closely paralleled that of the Navy ZEKE, is a product of the Japanese pre-war idea that planes and pilots were completely expendable. Carrying only two machine guns, OSCAR is the most lightly armed of any active fighter in use by a major power. It is highly vulnerable, despite the addition of some armor plate and gas tank leak-proofing.

But for all of that, it is still the most numerous of Army fighters and is standard equipment for combatant units in every theater. Because of its relative ease of manufacture, the Japanese have been forced to continue making it while striving for quantity production of more effective types. They are aware of the

plane's armament deficiency, but, up to now, have been unable to remedy it because of design limitations.

TONY and TOJO have not yet succeeded in replacing OSCAR. There are indications [13] that FRANK (see page —) was intended as a successor, but it is only beginning to come into the combat picture and may not live up to expectations.

OSCAR was active in some quantity at the time of PEARL HARBOR, in a Model 1 version powered by a Type 99 950 h. p. engine and carrying two 7.7 mm synchronized machine guns. A Model 2 made its combat appearance early in 1943. It had a Type 2 1150 h. p. engine and standard armament of two 12.7 mm machine guns. Early planes of the Model 2 series closely resembled the Model 1, but later versions appeared with blunt wing tips. There have been reports of a Model 3, of which no details are known.

OSCAR's strongest point in combat is its extreme maneuverability at medium speeds and altitudes. This factor has made it troublesome to our fliers, but has failed to compensate for its weaknesses.

CRASHED FRANK BELIEVED FOUND

Fragmentary information from CHINA reports recovery of the wreckage of a new type fighter, believed to be the Japanese Army's "Ki 84", or FRANK.

This plane was powered by an 18-cylinder engine and armed with two synchronized 12.7 mm machine-guns and two 20 mm wing cannon.

The plane was equipped with a four-blade paddle-type electric propeller. Gas tanks were self-sealing and two pieces of half-inch armor plate, 18" x 29" and 10" x 8" were installed behind the pilot's back and head. The empennage was reported as similar to that of TOJO, and hydraulically actuated landing gear retracted rearward. It had split flaps.

[14]

JAPS WORK ON NEW 4-ENGINE BOMBER

Japanese development of a new heavy bomber, strongly armed and powered by four Homare engines, is disclosed in a document (CINCPAC-CINCPOA Item No. 11,939) captured on PELELIU.

This plane, a Navy design still in the experimental stage, bears the Japanese designations of "Renzan" (Distant Mountain) or 18 Experimental Land Attack. It is the Japanese Navy's second attempt to produce a four-engine land plane, LIZ having proved to be a combat failure. There is little possibility that "Renzan" will be ready for service use until late 1945 at the earliest.

The document containing data on "Renzan" is another in the series of tables which have been recovered after recent invasions. It must be viewed as tentative, because it is mimeographed and bears no date or issuing authority, but it does appear to be of semi-official nature and recent origin.

"RENZAN"

The given data for this plane is as follows:

Crew: 7.

Engines: 4 x Homare (Modified).

H. P.: 1850 at 26,240 ft.

Maximum speed: 315 Kts. at 26,240 ft.

Rate of climb: 12 mins., 45 secs. to 26,240 ft.

Cruising speed: 200 kts. at 26,240 ft.

Hypothetical ranges: Normal—2080 naut. mi.; attack overload 3520 naut. mi.;

Recce overload—4070 naut. mi.

Armament: 2 x 20 mm each in dorsal, ventral and tail turrets; 2 x 13 mm in nose turret, and 1 x 13 mm each in right and left waist hatches. (Total 6 x 20 mm and 4 x 13 mm).

Bomb Load: 3 x 1760 lb. bombs or torpedoes, or 2 x 4400 lb. bombs, or 2 x 3300 lb. bombs, or 8 x 550 lb. bombs, or 18 x 132 lb. bombs.

Because of the recent development of this plane—it was ordered in 1943—it is probable that the performance figures given above are specified rather than actual. However, they are, at least theoretically, possible of attainment by a

plane with engines of the horsepower given. The high output listed for 26,240 feet—a rated altitude higher than that of currently operational Japanese aircraft—indicates a possibility that the Homare engines specified may be Model 51 or 52, both listed by official sources as designed for high altitude performance. The twin-gun turrets also are new in Japanese design.

TAIZAN

The same document supplies a new set of specifications for the two-engine bomber "Taizan", first information on which was outlined in "Weekly Intelligence", Vol. 1, No. 11. The new material significantly differs from previous data, [15] possibly indicating error in one or both of the sources. However, it is not necessarily contradictory or inconsistent inasmuch as the plane is still in an experimented status and variations in design, equipment, and performance are to be expected.

The new information follows:

Crew: 5.

Engines: 2 x MK10A.

H. P.: 1950 at 26,240 ft.

Maximum speed: 303 kts. at 26,240 ft.

Rate of climb: 10 mins. to 13,124 ft.

Hypothetical range: Normal—1200 naut. mi.; attack overload—2000 naut. mi.; Recce overload—2400 naut. mi.

Armament: 2 x 20 mm in dorsal turret; 2 x 13 mm in tail turret; 2 x 13 mm in nose turret, and 1 x 13 mm each in right and left waist hatches.

Bomb load: 2 x 1760 lb. bombs, or 2 x 1100 lb., or 6 x 550 lb., or 12 x 132 lb.

The foregoing differs from prior information in listing a crew of five, rather than four; considerably increased armament, and a maximum bomb load of two, rather than one, 1760 lb. bombs.

The greatest difference, however, lies in the listed engine installation and consequent performance variations. Previous data indicated "Taizan" to be powered by two souped-up engines of the MK6 series, each delivering a takeoff maximum of 2700 h.p., and 2000 h.p. at 26,240 feet. Little is known of the MK10A engine, a new development, except that it is shown in official documents to be an 18-cylinder twin-row radial having a "Vulcan type" (presumably turbo) supercharger. This would account for the high rated output listed for 26,240 feet.

Another unresolved question is how five gun stations could be manned by a total crew of five, unless one man were responsible for both waist positions or a remote control apparatus were used. Previous information indicated total armament of only 2 x 20 mm and 2 x 7.7 mm, positions not given.

[16]

GEORGE—FIRE PATTERN AND SPECIFICATIONS

New translations add to the growing body of information on GEORGE (SHIDEN), Kawanishi's interceptor-fighter powered by a Homare 21 engine developing 2,000 h. p. at takeoff.

Although GEORGE has been in service for nearly a year, there have been no definite identifications of it in combat and no crash examinations in the field. It is believed that most of these planes have been assigned to Empire defense.

Reproduced as Figure 1 is a diagram showing the harmonization plan for GEORGE's four 20 mm fixed cannon and two 7.7 mm synchronized machine-guns. It was taken from a mimeographed Japanese copy of an armament manual published by YOKOSUKA Air Group in February, 1944 (CINCPAC-CINCPOA Item No. 9720). The same document furnished rough line drawings of GEORGE which were published in "Weekly Intelligence", Vol. 1, No. 5.

(Figure 1, referred to in the preceding paragraph, is a diagram showing the Harmonization Pattern for "GEORGE". Kawanishi's interceptor-fighter powered by a Homare 21 engine developing 2,000 h.p. at takeoff. This diagram will be found reproduced as Item No. 45, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[17] Two of GEORGE'S four 20 mm cannons are mounted conventionally, one in each wing. The other two are installed in faired housings on the under-

side of the wings. Of the conventionally mounted 20's these weapons may be either the Type 99 Mk. I (low velocity) or Mk. II (high velocity). They are hydraulically charged and electrically fired.

The harmonization pattern illustrated is an experimental one and may have been revised, but it is of interest in showing the Japanese approach to the problem.

Another document (CINCPAC-CINSPOA Item No. 11,805) supplies new information on the specifications of GEORGE. This document is a pilot's notebook and should be evaluated with reserve but probably is reliable in the main. The given span of 39.37 feet agrees with previous information, but the length, 29.35 feet, is greater than the 26.25 feet given in an earlier notebook. It is believed that 29.35 feet is the more nearly correct figure. Weights given in the current notebook also exceed those noted in prior documents and quite possibly indicate the installation of additional equipment.

Item No. 9720 shows provisions for mounting a small (66 or 132 lb.) bomb under each wing. This loading had been presumed, but not established, previously. Available data on performance of GEORGE appeared in "Weekly Intelligence", Vol. 1, Nos. 9 and 12.

Specifications extracted from the notebook (Item No. 11,805) follow:

Principal Measurements:

Overall Span.....	12.000 meters (39.37')
Overall Length.....	8.9445 meters (29.35')
Overall Height.....	4.038 meters (13.25')
Landing Angle.....	13.0°
Wheel Base Length.....	4.450 meters (14.6')

Main Wing:

Area.....	23.5-m ² (252.8 sq. ft.)
Chord Length:	
At wing root.....	2.700 meters (8.86')
At wing tip.....	1.250 meters (4.10')
Mean Chord Length.....	2.070 meters (6.79')
Angle of Setting.....	4.0°
Aspect Ratio.....	6.13
Taper Ratio.....	1/2.16
Aileron Area.....	1.23-m ² x 2 (13.23 sq. ft. x 2)

Tail Assembly:

Horizontal Tail Assembly Area.....	4.4-m ² (47.34 sq. ft.)
Elevator Area.....	0.55-m ² (5.92 sq. ft.)
Vertical Tail Assembly Area.....	2.00-m ² (21.52 sq. ft.)
[18] Rudder Area.....	0.66-m ² (7.10 sq. ft.)

Weight:

Net Weight.....	2.710-kg (5.962 lbs.)
Normal Load.....	3.750-kg (8,250 lbs.)
1st Overload.....	3.891-kg (8,560 lbs.)
2nd Overload.....	4.246-kg (9,341 lbs.)

(At this point in Exhibit No. 5 there appears a captured photograph showing cruiser or battleship recovery of an old Jap float recce plane, "DAVE". This photograph will be found reproduced as Item No. 46, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[19]

IRVING VERSIONS CLARIFIED

A recently captured document, combined with field observations, sheds considerable light on the several versions of IRVING and their nomenclature.

This document, a mimeographed reference pamphlet (CINCPAC-CINCPHA Item No. 11,907), lists five separate variations of IRVING—all of them bearing the common Model-Type symbol "JINI". They are: Type 2 Land Recce Plane; Type 2 Land Recce Plane, converted as bomber; Type 2 Land Recce Plane converted as Type 2 night fighter; GEKKO, Model 11, and GEKKO, Model 11, Modified.

The following table condenses salient points of difference among the five versions:

Designation	Crew	Normal weight	Fuel carried in normal cond. (in U. S. gallons)	Armament
Type 2 Land Recce.....	3	15,950 lbs....	475 gals.....	1 x 20 mm and 1 x 7.7 mm fixed, and 4 x 7.7 mm in remotely controlled dorsal turrets.
Type 2 Land Recce (converted as bomber).	3	15,940 lbs....	264 gals.....	Same as above, plus 2 x 550 lb. or 4 x 132 lb. bombs.
Type 2 Land Recce (converted as night fighter).	2	15,063 lbs....	475 gals.....	1 x 20 mm and 1 x 7.7 mm fixed and 1 x 20 mm in power turret.
GEKKO, Model 11.....	2	15,246 lbs....	475 gals.....	2 x 20 mm dorsal inclined and 2 x 20 mm ventral inclined.
GEKKO, Model 11 (Modified).	2	15,048 lbs....	475 gals.....	Same as above, except 1 x 20 mm ventral.

[20] The foregoing information makes it possible to trace the history of IRVING, which has gone through more mutations than any other Japanese combat plane. The original version apparently saw little service, although one of them was recovered on TINIAN. The second variation required only the installation of external bomb racks, but also apparently was used very little.

Collateral information indicates that the third version made its appearance late in the summer of 1943, but it seems to have met with little success and was succeeded in the autumn of that year by the one mounting inclined, fixed 20mm cannon. This latter was dignified by an official Japanese Navy acceptance order, which changed the plane's designation from Type 2 to GEKKO. It is believed that all IRVINGs made since late 1943 have been the GEKKO variety.

The third variation, with a 20mm cannon in power turret, was illustrated in "Weekly Intelligence", Vol. 1, No. 11. According to the document, the second member of the two-man crew normally occupies the rear cockpit section, but operates the turret during combat. Varying armament of GEKKO has been discussed in several past issues. The modified GEKKO, noted in CINCAP-CINCP0 Item No. 11,907, may be the one for which a triple fixed 20mm dorsal mount ("Weekly Intelligence", Vol. 1, No. 13) was designed. Although the document does not specifically say so, it would be logical to add a dorsal gun when one of the ventral guns was removed.

However useful the document may be in clarifying nomenclature and development, still other minor variations of IRVING have been found in the field. Some specimens have mounted *both* nose cannon and inclined cannon, and most of them, whatever their armament, have been equipped with bomb racks.

There is also good evidence that a re-engined Model 12, or J1N2 IRVING is in existence, and IRVINGs equipped with radar have been examined in the field.

(A photograph of the GEKKO, Model 11, version of "IRVING", referred to *supra*, will be found reproduced as Item No. 47, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[21]

NEW JAP AIR-TO-AIR BOMBING DEVICES

The Japanese, vigorously experimenting with methods to halt our bombing strikes, have developed a variety of new weapons based on the principle of air-to-air bombing. Most of these still fall into the category of interesting gadgets, but all present a threat which may become serious if techniques are improved.

The standard air-to-air weapon appears to be the 75 lb. aerial burst phosphorus bomb with a 3 or 3.5 second delay, which was discussed in "Weekly Intelligence", Vol. I, Nos. 4 and 13. Continuing use of this bomb is indicated.

More recent evidence shows experiments with at least three types of cable bomb and indicates the possibility of cable-training balloons, released from aircraft. Action reports have noted several new types of areal explosive bursts, under circumstances indicating that they were caused by air-to-air bombardment, but the nature of these has not been fully determined. The Japs also have used several types of aerial grenade discharger for some time, with little reported success.

An intriguing device of the cable variety is illustrated and described in a handwritten document (CINCPAC-CINCPAA Item No. 11,006), captured on PELELIU. This document is rough, incomplete and partly self-contradictory. In view of its nature and lack of date or source, it must be accepted with considerable reserve, but it is presented as an interesting and possibly significant bit of evidence.

The document, entitled "Notes on the 10 Kg. (22 lb.) Towed Bomb", remarks that the weapon is for use against "enemy large model planes". Exact tracings from the attached sketches, together with translations of the original notations, are reproduced as Figures 1 and 2.

(Figures 1 and 2, *supra*, are sketches showing:

1. Tracing of Japanese sketch purporting to show method of releasing towed cable bomb against Allied bomber.
2. Detail of towed cable bomb, from captured sketch.

These sketches will be found reproduced as Items Nos. 48 and 49, respectively, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[23] "The towed bomb", says the document, "is fired from a point 200 meters (656 ft.) above the enemy plane by driving directly from above, in accordance with the method for attacking enemy planes. A tow cable is attached to the towed bomb. The initial speed of the bomb is about 200 meters per second, and since its head resistance is strong, it should be made to travel not more than 500 meters before striking the enemy plane. At the time of firing, the position of the bomb will form an angle of about 30° to the plane from which it is fired, and an angle of 45° to the enemy plane".

(Comment: The last sentence appears anomalous under conditions of a vertical dive. To achieve such a combination of angles, assuming level flight by the plane under attack, the attacking plane would have to be gliding at an angle of 15° from the horizontal, or diving 15° past the vertical.)

The document continues: "The bomb will pass, in falling, close to the enemy plane. Since the bomb is pulled by a fighter plane by means of a fixed length of tow cable and assumes a position similar to that of a sleeve target, the tow cable is pulled taut upon coming in contact with the enemy plane. The bomb, which is at the very end of the cable, is equipped with horns (to detonate it). Since there is an instantaneous detonation when the horns touch the enemy plane, it is fully possible to bring down a plane with one bomb.

"Nomenclature of the parts:

- "a. Bomb body.
- "b. Firing cylinder.
- "c. Firing mechanism.
- "d. Firing safety cylinder.
- "e. Tow cable housing tube.
- "f. Tow cable disengaging mechanism.

"Operation:

"When, in diving, the handle of the opening mechanism of the firing cylinder is pulled, the firing cylinder forms an angle of 30 to 45 degrees, depending on the air pressure, with the under surface of the wing. The bomb is fired by an electrical firing mechanism".

Piecing together the text and the illustrations, it appears that the bomb container tube is carried flush against the under surface of the fuselage, or within it, during flight, with the tow cable extending back along the fuselage to a reel near the tail. On entering the dive, the pilot operates a lever which permits the container tube to swing outward on its hinge, at an angle apparently controlled by inter-action of air pressure and a resistance spring. At the proper instant, the expulsion charge is detonated, throwing the bomb out, while the cable unreels and the protective cover falls away.

There have been no reports of such a device being used in combat, and it has not been examined in the field.

It has been established that the Japanese have developed another type of cable [24] air-to-air bomb, consisting of an explosive unit attached to a cable which, in turn, is suspended by a parachute. There is, also, a fragmentary documentary indication of a device made up of two small bombs at either end of a cable.

An air crew of Seventh Bomber Command has reported being attacked by Jap planes which released an aerial burst bomb estimated at six feet in length and a foot and a half in diameter, thought possibly to be a 550 lb. version. From the

Asiatic theater come reports of balloons, possibly trailing cables and released by aircraft, and of mysterious aerial explosions far out over the ocean.

(At this point in Exhibit No. 5 there appears a photograph of a B-29 over Yawata, which will be found reproduced as Item No. 50, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

The supposed aerial-release balloons were noted over YAWATA by B-29s at an altitude of about 24,000 feet under circumstances which made it unlikely they [25] could have been either fugitive or captive. Such a device, equipped with trailing cables and explosive charges might be developed into an effective anti-bomber weapon if released in quantity.

Information on Japanese aerial-burst bomb tactics as carried out in actual combat is contained in Intelligence Memorandum No. 19 of Commander Shore-based Air, Forward Area, quoting the report of a veteran B-24 navigator. It follows:

"After being subjected to repeated attacks by Jap fighters over TRUK and IWO JIMA, dropping phosphorus bombs, it can be stated that certain definitely recurrent maneuvers are used. The attacking ZEKES will fly parallel to our formation, usually at 3 or 9 o'clock for one to five minutes, possibly gauging our altitude. They then accelerate, pass the head of the formation and go into a steep chandelle, cutting in towards the center of the formation. They then roll over on their backs, begin to descend and flip out the phosphorus bombs. Were our squadrons to lose altitude at the beginning of the enemy chandelle, this might be good evasive action.

"These passes were used almost exclusively at IWO JIMA when the sun was to the back of our formation. When the sun was high and from 10 to 2 o'clock, the Japs at both TRUK and IWO JIMA would drop their bombs on their first surprise run, directly out of the sun. The only evasive action we can take to avoid this is to plan our missions at times when the sun will be at our back".

The tactics described appear to follow written Jap doctrine ("Weekly Intelligence", Vol. I, No. 13) to the extent that, in each case, the bombs are released ahead of the bomber formation and while the attacking fighter is flying towards it. The report that the bombs sometimes are "flipped out" while the fighter is on its back does not fit the normal wing-rack loading of aerial burst bombs, and may indicate some type of ejection device which has not yet been examined in the field.

On the parallel approach from the rear a chandelle or Immelman, following acceleration, would permit the attacking plane to gain proper distance and altitude increment with a minimum of exposure to opposing fire and in a minimum of time.

(At this point in Exhibit No. 5 there appear photographs showing Liberators under attack over Iwo Jima, which will be found reproduced as Item No. 51, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[26]

WEEKLY COVERAGE REPORT

Photos received at CinCPac-CinCPOA during period from 6 October 1944 to and including 13 October 1944

[*Negs. received; **Prints only received]

JAPAN

Kyushu: Good trimetrogon split and oblique coverage of areas indicated

V/O	F. L.	Alt.	Sortie No.	Jicpoa #	Date taken
Split Vert.	24"	30,000'	Omura M7-40-25-AC288	7213-16	8/21*
V.	24"	25,000'	Yawata-M7-468-265	7214-17	8/20*
		26,000'	Yawata-M7-40-44-AC503	7215-18	8/20*
			Yawata-M7-40-45-452	7216-19	8/20*
Split Vert.	24"	30,000'	Taka Shima M7-40-25-AC288	7220-20	8/20*
V.	24"	26,000'	Yawata-M6-462-769	7222-12	8/20*
Split Vert.	24"	30,000'	Nagasaki M7-40-25-AC288 (Taka Shima)	7223-13	9/21*
Split Vert.	24"	30,000'	M7-40-25-AC-288	7225-14	8/21*
Tri Met	6"	30,000'	M7-40-25-AC-288	7226-15	8/21*

Photos received at CinCPac-CinCPOA during period from 6 October 1944 to and including 13 October 1944—Continued

JAPAN—Continued

Kyushu: Good trimetrogon split and oblique coverage of area indicated—Continued

V/O	F. L.	Alt.	Sortie No.	Jicpoa #	Date taken
V.....	12½"	26,000'	Yawata (Bomb Run) Wing M6-462-769-13PL.	7262-25.....	8/20*
V.....	12"	25,000'	Yawata A/F M7-468-442-14PL	7261-24.....	8/20*
V.....	6"	26,300'	Yawata-M19-444-262	7260-23.....	8/20*
Tri Met.....	6"	30,000'	Nagasaki-M7-40-25-AC288	7258-21.....	8/21*
Tri Met.....	6"	30,000'	Omura M7-40-25-AC288	7259-22.....	8/21*
O.....	6¾"		Yawata Area-468-217-20AAAF	7263-26.....	8/20*
			Yawata-468-353-20AAAF	7264-27.....	8/20*
			Yawata-468-370-20AAAF	7265-28.....	8/20*

PHILIPPINE ISLANDS

CEBU-LEYTE-BOHOL: Trimetrogon and vertical coverage of portions of islands indicated

Tri Met.....	152.2 mm.	Var.....	CVL23-33 (p) CEBU, LEYTE.	7098-42.....	9/13*
	6"	Var.....	CVL23-33 (v) CEBU, VIC MAC-TAN IS, LEYTE.	7099-42.....	9/13*
	6"	Var.....	CVL23-33 (s) CEBU, BOHOL, LEYTE.	7100-42.....	9/13*
V.....	8¼"	Var.....	ESSEX-124 (CEBU)	7124-43.....	9/12*

Bohol: Good Partial vertical and oblique coverage of island

V.....	24"	Var.....	CV16-2478	7009-4.....	9/14*
V.....	12"	Var.....	CV16-2479	7016-6.....	9/14*
V.....	8¼"	8,000'	CV16-2457	7005-1.....	9/12*
V.....	8¼"	Var.....	CV16-2480	7005-2.....	9/14*
V.....	6"	9,500'	CV16-2455(V)	7007-3.....	9/12*
V/O.....	8¼"	Var.....	CV12-353	7011-5.....	9/13*
O.....	6"	9,500'	CV16-2456(P)	7008-3.....	9/12*

Cebu: Good vertical, oblique and trimetrogon coverage of areas indicated

Tri Met.....	6"	6,000'	CV16-2448(V)	7079-19.....	9/12*
		6,000'	CV16-2449(P)	7080-19.....	9/12*
		6,000'	CV16-2450(S)	7081-19.....	9/12*
V.....	8¼"	Var.....	CV16-2451	7082-5.....	9/12*
O.....	6¾"	Var.....	CV16-2452	7083-6.....	9/12*
V/O.....	24"	Var.....	CV16-2453	7084-7.....	9/12*
V.....	12"	Var.....	CV16-2454	7085-8.....	9/12*
O.....	6¾"	Var.....	CV16-2458	7086-9.....	9/12*
			CV16-2459	7087-10.....	9/12*
			CV16-2460	7088-11.....	9/12*
			CV16-2461	7089-12.....	9/13*
Tri Met.....	6"	10,000'	CV16-2462(V) (MACTAN) (CEBU)	7090-13.....	9/13*
		10,000'	CV16-2463(P) (MACTAN) (CEBU)	7091-13.....	9/13*
		10,000'	CV16-2464 (S) (MACTAN)	7092-13.....	9/13*
V.....	6"	1,000'	CV16-2467 (N. E. COAST) (CEBU)	7093-14.....	9/13*
O.....	6"	1,000'	CV16-2468 (N. E. COAST) (CEBU)	7094-15.....	9/13*
V.....	8¼"	Var.....	CV16-2469	7095-16.....	9/13*
O.....	6¾"	Var.....	CV16-2472	7096-17.....	9/13*
		Var.....	CV16-2473	7097-18.....	9/13*
		Var.....	CV12-240	7101-20.....	9/12*
		2,000'	CV12-341	7102-21.....	9/12*
		2,500'	CV12-342	7103-22.....	9/12*
		Var.....	CV12-343	7104-23.....	9/13*
O.....	24"	Var.....	CV12-346 (N. CEBU)	7105-24.....	9/12*
O.....	6¾"	1,000'	CV12-347 (SHIPPING)	7106-25.....	9/12*
		Var.....	CV12-348 (CEBU HARBOR)	7107-26.....	9/12*
O.....	24"	Var.....	CV12-349 (CEBU TOWN)	7108-27.....	9/13*
V/O.....	8¼"	Var.....	CV12-353	7109-28.....	9/13*
O.....	6¾"	Var.....	CV12-354 (CEBU TOWN)	7110-29.....	9/13*
		Var.....	CV12-159	7111-30.....	9/12*
		Var.....	CV12-160	7112-31.....	9/12*
		Var.....	CV12-161	7113-32.....	9/12*
		Var.....	CV12-163	7114-33.....	9/12*
V.....	12"	5,000'	WASP-167 (SHIPPING CEBU HARBOR)	7115-34.....	9/12*
		8,000'	WASP-168 (SARAVIA & MANAPLA)	7116-35.....	9/12*
V.....	12"	3,500'	WASP-170 (EAST COAST)	7117-36.....	9/12*

Photos received at CinCPac-CinCPOA during period from 6 October 1944 to and including 13 October 1944—Continued

PHILIPPINE ISLANDS—Continued

Cebu: Good vertical, oblique and trimetrogon coverage of areas indicated—Continued

V/O	F. L.	Alt.	Sortie No.	Jicpoa #	Date taken
O	8¼"	Var	BKHL-302	7077-4	9/13*
O	6¾"	Var	BKHL-298	7118-37	9/13*
		Var	BKHL-303	7119-38	9/13*
V	6"	800'	ESSEX-123 (V)	7120-39	9/12*
O	6"	800'	ESSEX-123 (P)	7121-39	9/12*
O	8¼"	Var	ESSEX-139 (SHIPPING)	7122-40	9/12*
		Var	ESSEX-147	7123-41	9/14*

Dinagat: Good complete vertical and oblique coverage of northern portion of island

Tri Met	6"	Var	CV16-2476 (S)	7073-3	9/14*
		Var	CV-16-2474 (V)	7074-3	9/14*
		Var	CV-16-2475 (P)	7075-3	9/14*
V	8¼"	Var	CV12-353	7076-4	9/13*

Leyte: Good vertical, oblique and trimetrogon coverage of areas and airfields indicated

Tri Met	6"	Var	CV16-2476 (S)	6996-19	9/14*
		Var	CV16-2474 (V)	7010-19	9/14*
		Var	CV16-2475 (P)	6997-19	9/14*
V	20"	7,000'	CV16-2477 (BURAUEN & N. W. LEYTE)	6998-21	9/14*
O	24"	Var	ESSEX-148 (LEYTE-SAMAR)	6999-22	9/14*
O	6¾"	Var	BKHL-289 (LEYTE-SAMAR)	7003-24	9/12*
V	8¼"	Var	CV12-351	7047-20	9/13*
V	20"	Var	BKHL-284	7126-26	9/12*
O	12"	Var	CVL 27-165 (TACLOBAN)	7024-23	9/14*
O	24"	Var	CV12-346 (DULAG A/F)	7125-25	9/12*

Mindanao: Good vertical, oblique and trimetrogon coverage of areas and airfields indicated

O	6¾"	Var	CV125-80 (CAGAYAN AREA)	7048-32	9/8*
		Var	CV125-80A (CAGAYAN AREA)	7049-33	9/9*
		Var	CV125-80B (CAGAYAN AREA)	7050-34	9/9*
V	8¼"	1,100'	CVL25-83 (SAN AGUSTIN)	7051-35	9/14*
O	6¾"	Var	CVL25-84 (C. SAN AGUSTIN)	7052-36	9/14*
V	20"	8,200'	CVL27-150 (VALENCIA)	7053-37	9/9*
V	6¾"	Var	CVL27-151 (VALENCIA)	7054-38	9/9*
O	6¾"	Var	CVL27-152 (VALENCIA)	7055-39	9/9*
		Var	CVL27-153 (VALENCIA)	7056-40	9/9*
V	12"	8,500'	CVL27-154 (MACAJALAR BAY)	7057-41	9/9*
O	12"	Var	CVL27-155 (MACAJALAR BAY)	7058-42	9/9*
V	12"	Var	CVL27-156	7059-43	9/9*
O	12"	Var	CVL27-157 (SURIGAO)	7060-44	9/9*
V	8¼"	Var	CV12-351	7061-45	9/13*
O	6¾"	Var	CV12-355 (JAP DD DAVAO)	7062-46	9/14*
O	24"	Var	CV12-356 (DAVAO)	7063-47	9/14*
O	6¾"	3,000'	CV12-357 (DAVAO)	7064-48	9/14*
		2,500'	CV12-358 (SASSA A/D)	7065-49	9/14*
Split vert.	24"	8,000'	CV23-32 P (MALABANG)	7066-50	9/10*
		8,000'	CVL23-32 S (MALABANG)	7067-50	9/10*
V	24"	15,000'	WASP-195 (AIRSTRIPS N. OF DIGOS)	7068-51	9/14*
V	12"	10,000'	WASP-196 (DAVAO TOWN AND AIRSTRIP)	7069-52	9/14*
V	24"	8,500'	WASP-197 (AIRFIELD S. OF DAVAO)	7070-53	9/14*
V	12"	Var	WASP-198 (AIRFIELD S. OF DAVAO)	7071-54	9/14*
			(DIGOS PT. AREA & PADADA A/D)		
Tri Met	6"	6,500'	WASP-138(P)	7247-68	9/9***
		6,500'	WASP-139(V)	7248-68	9/9***
		6,500'	WASP-140(S)	7249-68	9/9***
			(SARAGANI BAY AREA)		
V	12"	Var	WASP-142	7250-69	9/9***
			(BUAYAN TO MT. TANGLI)		
			(BUAYAN TO BEE HIVE)		
			(SUMBANG PT. TO TINAGA PT.)		
			(CAPE AGUSTIN)		

Photos received at CinCPac-CinCPOA during period from 6 October 1944 to and including 13 October 1944—Continued

PHILIPPINE ISLANDS—Continued

Mindanao: Good vertical, oblique and trimetrogon coverage of areas and airfields indicated—Con.

V/O	F. L.	Alt.	Sortie No.	Jicpoa #	Date taken
Tri Met.	6"	10,000'	WASP-144(V)	7251-70	9/9***.
		10,000'	WASP-145 (P)	7252-70	9/9***.
		10,000'	WASP-146 (S)	7253-70	9/9***.
			(SARANGANI BAY AREA)		
V	12"	15,000'	WASP-147	7254-71	9/9***.
		10,000'	CVL24-86 (COTABATO)	7255-72	9/10***.
O	152.8mm	1,600'	CVL24-88 (COTABATO)	7257-74	9/10***.
O	154.0mm	3,000'	CVL24-87 (COTABATO)	7256-73	9/10***.
Split Vert.	24"	Var.	ESSEX-120 (P)	7267-55	9/12*.
		Var.	ESSEX-120 (S)	7268-55	9/12*.

Negros: Good vertical and oblique coverage of areas and airfields indicated

O	20"	Var.	BHKL-307 (BACOLOD & TALISAY A/F).	7004-4	9/14*.
V	24"	8,000'	CV16-2465 (MANALPA, ALICANTE SARAVIA AND TALISAY A/F's).	7012-5	9/13*.
V	152.3mm	Var.	CV12-344(V)	7013-6	9/12*.
O	152.3mm	Var.	CV12-344 (S)	7014-6	9/12*.
O	24"	8,000'	CV12-352	7015-7	9/13*.
		Var.	CV12-349	7017-8	9/13*.
O	12"	Var.	CVL27-162 (DUMAGUETTE)	7018-9	9/12*.
[27] V	12"	5,000'	CVL27-171	7019-10	9/14*.
O	12"	Var.	CVL27-172	7028-11	9/14*.
V	12"	Var.	CV16-2466 (FABRICA)	7029-12	9/13*.
V	24"	7,000'	ESSEX-140 (AIRFIELDS)	7030-13	9/14*.
		8,000'	WASP-169 (SARAVIA TN & MANAPLA TN).	7031-14	9/12*.
V	6"	Var.	WASP-179 (V) (BACOLOD A/F, ALICANTE A/F).	7032-15	9/13*.
O	6"	Var.	WASP-180 (P) (BACOLOD & ALICANTE A/F).	7033-15	9/13*.
O	63½"	4,000'	CV12-359	7034-16	9/13*.
O		Var.	CV12-351 (DUMAGUETTE & SOQUIJOR).	7035-17	9/13*.
O	63½"	Var.	BKHL-297	7037-19	9/13*.
O	8¼"	Var.	ESSEX-133 (SARAVIA) (P)	7036-18	9/13*.
O	63½"	Var.	BKHL-300	7038-20	9/13*.
		Var.	BKHL-304	7039-21	9/14*.
		Var.	BKHL-305	7040-22	9/14*.
		Var.	BKHL-309	7041-23	9/14*.
		Var.	BKHL-310	7042-24	9/14*.
		Var.	CVL27-173	7043-25	9/14*.
		Var.	CV16-2470	7044-26	9/13*.
		Var.	CV16-2471	7045-27	9/13*.
		Var.	CV16-2481	7046-28	9/13*.
		Var.	CV16-2482	7072-29	9/14*.
		Var.	CV12-343	7141-30	9/13*.
		4,000'	CV12-345	7142-31	9/12*.
O	8¼"	1,000'	ESSEX-129	7209-33	9/12*.
O	12"	Var.	ESSEX-130	7210-34	9/12*.

Palmas: Good Partial oblique coverage of island

O	24"	Var.	CV12-356	7077-1	9/14*.
O	63½"	2,500'	CV12-358	7078-2	9/14*.

Panay: Good vertical and oblique coverage of ILOILO

V	24"	8,700'	ESSEX-141 (ILOILO)	7020-3	9/14*.
V	12"	3,000'	ESSEX-142 (ILOILO)	7021-4	9/14*.
O	8¼"	Var.	ESSEX-144 (ILOILO)	7022-5	9/14*.
O	12"	Var.	CVL27-164 (ILOILO)	7023-6	9/14*.
O	63½"	Var.	CVL27-168 (ILOILO)	7025-8	9/14*.
V	63½"	Var.	CVL27-169 (ILOILO)	7026-9	9/14*.
O	63½"	Var.	CVL27-170 (ILOILO)	7027-10	9/14*.

Photos received at CinCPac-CinCPOA during period from 6 October 1944 to and including 13 October 1944—Continued

PHILIPPINE ISLANDS—Continued

Samar: Good vertical and oblique coverage of areas indicated

V/O	F. L.	Alt.	Sortie No.	Jicpoa #	Date taken
O-----	20''-----	5,000'-----	CV11-34 (TUGNUG PT. TO CABLAGNA PT.)	7001-4-----	9/13*
V-----	152. Omm.	Var-----	CV11-36 (TIP SAMAR IS.)	7002-5-----	9/13*
O-----	8¼''-----	Var-----	BKHL-302	7000-6-----	9/13*

FORMOSA: Good vertical coverage of areas and airfields indicated

V-----	24''-----	30,300'-----	4MB137-21PR TAKAO HARBOR	7127-98-----	8/25*-**
		30,400'-----	4MB137-21PR TAKAO A/D-----	7128-99-----	8/25*-**
		30,500'-----	4MB137-21PR HEITO A/D-----	7129-100-----	8/25*-**
		30,200'-----	4MB137-21PR OKAYAMA A/D-----	7130-101-----	8/25*-**
		29,800'-----	4MB137-21PR TOSHIEH HARBOR.	7131-102-----	8/25*-**
		30,500'-----	4MB137-21PR TAINAN A/D AND SAT. L/S.	7132-103-----	8/25*-**
		29,900'-----	4MB139-21PR KATO SEA-PLANE BASE.	7133-104-----	8/26*-**
		29,900'-----	4MB139-21PR TAKAO A/D-----	7134-105-----	8/26*-**
		29,300'-----	4MB139-21PR TAKAO HARBOR	7135-106-----	8/26*-**
		29,700'-----	4MB139-21PR TOSHIEH HARBOR.	7136-107-----	8/26*-**
Split vert.	24''-----	31,500'-----	4MB143-21PR TAKAO HARBOR.	7137-108-----	8/29*-**
		30,000'-----	4MB151-21PR TAKAO.	7138-109-----	9/7*-**
		30,000'-----	4MB151-21PR TAKAO.	7138-109-----	9/7*-**
		30,300'-----	4MB151-21PR TOSHIEH HARBOR.	7139-110-----	9/7*-**
		30,300'-----	4MB151-21PR TOSHIEH HARBOR.	7139-110-----	9/7*-**
		30,000'-----	4MB151-21PR RUN FROM TANSUI RIVER TOKO TO N. OF HEITO.	7140-111-----	9/7*-**
		30,000'-----	4MB151-21PR RUN FROM TANSUI RIVER TOKO TO N. OF HEITO.	7140-111-----	9/7*-**
V-----	24''-----	30,100'-----	4MC7-21PR TAKAO HARBOR.	7192-112-----	1/24*-**
		30,100'-----	4MC7-21PR HOZAN RADIO STATION & A/D.	7193-113-----	1/24*-**
V-----	6''-----	30,100'-----	4MC7-21PR HEITO A/D-----	6888-91-----	1/24*-**
V-----	24''-----	30,100'-----	4MC7-21PR HEITO A/D-----	6888-91-----	1/24*-**
V-----	6''-----	30,300'-----	4MC7-21PR OKAYAMA A/D-----	6889-92-----	1/24*-**
V-----	24''-----	30,300'-----	4MC7-21PR OKAYAMA A/D-----	6889-92-----	1/24*-**
V-----	6''-----	30,200'-----	4MC7-21PR TAINAN & A/D-----	6890-93-----	1/24*-**
V-----	24''-----	30,200'-----	4MC7-21PR TAINAN & A/D-----	6890-93-----	1/24*-**
V-----	6''-----	29,400'-----	4MC7-21PR KAGI A/D-----	6891-94-----	1/24*-**
V-----	24''-----	29,400'-----	4MC7-21PR KAGI A/D-----	6891-94-----	1/24*-**
V-----	24''-----	30,400'-----	4MC7-21PR JITUGETUTAN LAKE.	6892-95-----	1/24*-**
V-----	24''-----	30,500'-----	4MC7-21PR TAICHU AND TOYOHARA A/D.	6893-96-----	1/24*-**
V-----	6''-----	30,500'-----	4MC7-21PR TAICHU AND TOYOHARA A/D.	6893-96-----	1/24*-**
V-----	6''-----	29,800'-----	4MC7-21PR JITUGETUTAN LAKE.	6894-97-----	1/24*-**
V-----	24''-----	29,800'-----	4MC7-21PR JITUGETUTAN LAKE.	6894-97-----	1/24*-**

PESCADORES

Mako Island: Good complete vertical coverage of Mako Island

V-----	24''-----	24,300'-----	M4/5-9PS-----	7176-8-----	4/24*-**/43
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Photos received at CinCPac-CinCPOA during period from 6 October 1944 to and including 13 October 1944—Continued

KURILES

Onokotan: Good partial vertical and oblique coverage of island

V/O	F. L.	Alt.	Sortie No.	Jicpoa #	Date taken
V-----	24''-----	14,500'-----	11AAF4M1143-1-----	7199-10-----	8/26**
V-----	12''-----	14,000'-----	11AAF4M1143-2-----	7200-11-----	8/26**
		13,800'-----	11AAF4M1143-5-----	7203-14-----	8/26**
		13,800'-----	11AAF4M1143-6-----	7204-15-----	8/26**
		14,000'-----	11AAF4M1143-7-----	7205-16-----	8/26**
		14,000'-----	11AAF4M1143-8-----	7206-17-----	8/26**
V-----	6''-----	14,000'-----	11AAF4M1143-3-----	7201-12-----	8/26**
		14,000'-----	11AAF4M1143-4-----	7202-13-----	8/26**
O-----	24''-----	14,500'-----	11AAF4M1143-1-----	7199-10-----	8/26**

Paramushiru: Good partial vertical and oblique coverage of island

V-----	12''-----	-----	FAW4-S425-----	7198-45-----	9/2**
O-----	20''-----	-----	FAW4-S425-----	7197-44-----	9/2**
O-----	63½''-----	-----	FAW4-S425-----	7196-43-----	9/2**

BONINS

Chichi Jima: Good partial vertical coverage showing bomb damage to Omura seaplane base

V-----	24''-----	19,400'-----	A-973-38BS-H337-7BC-----	6991-118-----	9/22*
		17,000'-----	D-708-819BS-H337-7BC-----	6992-119-----	9/22*
V-----	20''-----	11,500'-----	B-556-H346-38BS-7BC-----	6989-116-----	9/24*
V-----	12''-----	11,500'-----	B-809-819BS-H346-7BC-----	6990-117-----	9/24*
		11,700'-----	A-282-H346-38BS-7BC-----	6993-120-----	9/24*
		18,100'-----	C-674-819BS-H337-7BC-----	6994-121-----	9/22*

Haha Jima: Partial vertical coverage of island

V-----	12''-----	15,000'-----	C-674-819BS-H337-7BC-----	6995-44-----	9/22*
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KAZAN GROUP

Iwo Jima Rhetto: Good selected oblique shots of Kita Iwo Jima and enemy ship

O-----	63½''-----	Var-----	VB116-31-----	6966-158-----	9/23*
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Iwo Jima: Good partial vertical coverage showing bomb damage to airfields

V-----	40''-----	19,000'-----	B-838-392BS-H343-7BC-----	6987-162-----	9/25*
V-----	24''-----	17,800'-----	B-236-27BS-H343-7BC-----	6984-159-----	9/25*
		17,800'-----	A-473-27BS-H343-7BC-----	6985-160-----	9/25*
		17,800'-----	493-27BS-H343-7BC-----	6986-161-----	9/25*
		19,000'-----	A-870-392BS-H343-7BC-----	6988-163-----	9/25*

MARIANAS

Maug: Selected distant obliques of island

O-----	63½''-----	Var-----	VB116-30-----	6968-14-----	9/23*
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Pagan: Good partial vertical and oblique coverage of island

V-----	24''-----	11,000'-----	28PR4MC133-----	6970-105-----	9/29*
		11,500'-----	A-994-27BS-7BC-----	6971-106-----	9/21*
O-----	20''-----	10,000'-----	A-556-38BS-7BC-----	6972-107-----	9/23*
O-----	12''-----	2,000'-----	28PR4MC131-1-----	6969-104-----	9/29*

Photos received at CinCPac-CinCPOA during period from 6 October 1944 to and including 13 October 1944—Continued

CAROLINES

Ponape: Three selected oblique shots showing bomb damage to old and new airfields

V/O	F. L.	Alt.	Sortie No.	Jicpoa #	Date taken
O-----	6½''	9,000'	A-296-MAG22(48BS-M356-7BC)-----	7173-581-----	9/24*
		1,000'	B-503-MAG22(48BS-M356-7BC)-----	7174-582-----	9/24*
		5,500'	C-614-MAG22(48BS-M356-7BC)-----	7175-583-----	9/24*

Truk: Selected oblique and vertical shots showing damage to airfield on Eton and seaplane base on Dublo

V-----	24''	19,500'	B-840(26BS-H339-7BC)-----	7150-523-----	9/19*
		19,500'	C-833(26BS-H339-7BC)-----	7151-524-----	9/19*
		20,000'	D-832(26BS-H339-7BC)-----	7152-525-----	9/19*
		20,000'	E-993(26BS-H339-7BC)-----	7153-526-----	9/19*
		20,500'	A-873(98BS-H339-7BC)-----	7154-527-----	9/19*
V-----	12''	19,400'	B-876(98BS-H339-7BC)-----	7155-528-----	9/19*
O-----	12''	19,500'	A-025(26BS-H339-7BC)-----	7149-522-----	9/19*
		19,700'	C-362(98BS-H339-7BC)-----	7156-529-----	9/19*

MARCUS: Good complete vertical coverage of island

V-----	24''	18,500'	A-708-819BS-7BC-----	7158-21-----	9/24*
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NAURU: Selected distant oblique shots showing bomb damage to phosphate plant and airfields

O-----	7''	9,500'	B-295-396BS-M355-7BC-----	7178-272-----	9/22*
		8,500'	D-294-396BS-M355-7BC-----	7179-273-----	9/22*
		6,300'	A-607-820BS-M353-7BC-----	7181-275-----	9/20*
		7,500'	B-825-820BS-M353-7BC-----	7182-276-----	9/20*
O-----	6½''	9,500'	A-615-396BS-M355-7BC-----	7177-271-----	9/22*
		6,500'	051-820BS-M353-7BC-----	7180-274-----	9/20*

[28] MARSHALLS

Jaluit: Selected vertical and oblique shots showing bomb damage to government station on Emidi

V-----	24''	19,000'	A-002(26BS-TM-SPEC-7BC)-----	7143-454-----	9/20*
		19,000'	B-947(26BS-TM-SPEC-7BC)-----	7144-455-----	9/20*
		19,000'	A-168(98BS-SP. MIS-7BC)-----	7145-456-----	9/20*
		19,000'	B951(98BS-SP. MIS-7BC)-----	7146-457-----	9/20*
		20,000'	A-673(431BS-SPEC-7BC)-----	7147-458-----	9/21*
V-----	20''	5,000'	MAG31 (VB-133)58-----	7188-464-----	10/4*
		5,000'	MAG31 (VB-133)59A-----	7189-465-----	10/5*
V-----	8¼''	3,000'	VM0155-76-----	7185-461-----	9/30*
O-----	8¼''	2,500'	VM0155-78-----	7186-462-----	10/4*
O-----	6½''	1,000'	MAG-57-----	7148-459-----	10/3*
		2,000'	VM0155-76-----	7184-460-----	9/30*
		1,500'	VM0155-78-----	7187-463-----	10/4*
		1,000'	MAG31-60-----	7190-466-----	10/5*
		1,000'	MAG31-59-----	7191-467-----	10/5*
		Var-----	MAG31-56-----	7194-468-----	9/30*
		1,000'	MAG31-61-----	7195-469-----	10/6*

Maloelap: Selected distant oblique shots showing bomb damage to airfield on Taroa.

O-----	6½''	1,500'	VMSB331-72-----	6981-415-----	9/27*
		1,400'	VM0155-75-----	6982-416-----	9/30*
		2,000'	VM0155-70-----	6983-417-----	9/27*
		1,500'	VM0155-77-----	7183-418-----	10/3*

Mille: Selected vertical and oblique shots showing bomb damage to airfield on Mille.

V-----	8¼''	2,000'	VM0155-69-----	6976-277-----	9/26*
O-----	6½''	2,000'	VM0155-73-----	6973-274-----	9/29*
		1,800'	VM0155-74-----	6974-275-----	9/29*
		1,500'	VM0155-68-----	6975-276-----	9/26*
		1,800'	VM0155-69-----	6977-278-----	9/26*

Photos received at CinCPac-CinCPOA during period from 6 October 1944 to and including 13 October 1944—Continued

MARSHALLS—Continued

Wotje: Selected vertical and oblique shots showing bomb damage to A/F on Wotje.

V/O	F. L.	Alt.	Sortie No.	Jicpoa #	Date taken
V-----	12''-----	16,800'-----	A-287(431BS-S. B.-7BC)-----	6980-483-----	9/24*
O-----	63½''-----	1,000'-----	MAG31-54-----	6978-481-----	9/27*
		1,000'-----	MAG31-55-----	6979-482-----	9/28*

RECENT PUBLICATIONS

(Important CINCPAC-CINCPAC translations of captured documents and POW interrogation reports issued during the past week).

Preliminary POW Interrogation Report No. 75 (6 October 1944). Interrogation of an infantry private captured on GUAM. Principally concerned with POW's opinions about morale in JAPAN and methods of inducing surrender of Japanese troops. Sketch-map of barracks area in HAICHENG, near ANSHAN, MANCHURIA. 8 pp.

Preliminary POW Interrogation Report No. 76 (7 October 1944). Interrogation of member of a Navy Construction Battalion, captured on SAIPAN. Brief information on training and functions of such units. Sketch-maps of FUJISAMA Naval Airfield near YOKOHAMA. 4 pp.

Preliminary POW Interrogation Report No. 77 (7 October 1944). Interrogation of an infantry 1st lieutenant captured on SAIPAN. Detailed history of 9th Expeditionary Unit; brief order-of-battle information on other infantry units. Detailed opinions of POW on Japanese military morale. 8 pp.

Item #9589 (7 October 1944). Plan for Naval Air Arsenal Organization in the PHILIPPINES; including excerpt from Naval Air Hq Secret #17497, dated 20 December 1943. 8 pp.

Item #11,072 (7 October 1944). Air Strength of the 1st Air Fleet and status of supply of ordnance, fuel and vehicles, at such bases as YAP, AMBON, DAVAO, PALAU, MARIANAS, HAIMAHERRA, etc., as of May 1944. 11 pp.

Item #9384 (7 October 1944). Northern MARIANAS Group OpOrd A #10 & #14 (CHARAN KAMOA, 26 29 May 1944): giving T/O of Group Fortification Dept. 3 pp.

Item #9783 (7 October 1944). Extract resume of a Naval Air Technical Arsenal Secret Report on the Results of Research and Testing of the 1K1B Engine; dated August 1942. 10 pp.

Item #10,801 B (7 October 1944). Two tables giving data on Japanese aircraft and specifications and performance of experimental planes; undated. 3 pp.

Item #11,114 (7 October 1944). A list of Naval Air Groups and their locations; undated (presumably 1943). 3 pp.

Item #11,403 (7 October 1944). 1st Air Fleet (61st Air Flot): proposed schedule of transfer of Air Groups to the PHILIPPINES; undated. 5 pp.

Item #10,804 (7 October 1944). Japanese Navy Administrative Orders (for 1942, 1943, 1944) dealing with Naval Guard Units and Specially Established Guard Units. This publication is a compilation of all available Navy AdOrders regarding these two classes of KEIBITAI, extracted from NAIREI TEIYO, Vol. I, with corrections and deletions. 60 pp.

Item #10,390 (9 October 1944). A Sketch of harbor installations at HAKATA KOWAN; undated. 1 p.

Item #10,415 (9 October 1944). A Sketch of MOJI Port Facilities; undated. 3 pp.

Item #10,959 (9 October 1944). A brief description of the sinking of the HIYORI MARU on 17 May 1944; and a T/O of the 3rd Co, 28th Ind Car Inf Bn. 4 pp.

Item #11,112 (9 October 1944). Notes on Japanese shipping (minerals production in Japanese colonies, fuel, etc.) taken from a notebook; undated; fragmentary. 2 pp.

Item #11,405 (9 October 1944). Excerpts taken from the diary of a member of the Medical Admin Unit, Mt Arty Bn, 50th Inf Regt; TINIAN; entries: 23 February through 29 July 1944. 8 pp.

Item #9882 (10 October 1944). A very full name list of officers assigned to units under the command of the 31st Army; dated May 1944. 105 pp.

Item #9883 (10 October 1944). A file of shipping Hq Orders; dated March through May 1944; showing troop movements for that period. 27 pp.

Item #10,103 (10 October 1944). Sketches of airfields in JAPAN, taken from a notebook; dated variously 1934 to 1943. 12 pp.

Item #10,130 and #10,130 A (10 October 1944). North Pacific Weather Summary Maps and text—translation of a Japanese Hydrographic Office publication. 24 charts.

Item #10,188 (10 October 1944). Communications Net for ROTA; undated. 1 p.

Item #10,015 (11 October 1944). Hq, 14th Div: Reported on Conditions; dated 5 April 1944. 13 pp.

Item #10,090 A&B (11 October 1944). Two standing orders of the 523rd Naval Air Group (February & April 1944) giving the organization of the air group. 11 pp.

Item #9961 A (11 October 1944). A table of specifications for important Japanese planes; undated. 8 pp.

Item #9660 (11 October 1944). Reports on supplies, ordnance and personnel for Central Pacific forces; dated February through April 1944. 23 pp.

Item #10,452 A (11 October 1944). 13th Div OpOrd A #4, giving T/O's and ordnance issues for subordinate units. Dated 22 October 1943. 13 pp.

Item #11,823 (12 October 1944). Sketch map of KOROR, MALAKAL, and ARAKABESAN Islands, PALAU, showing location of supply depots. 1 p.

Item #9945 (12 October 1944). Naval Technical Research Laboratories report on tests with an underground sound detector, dated 10 June 1943. 15 pp.

Item #10,127 (12 October 1944). Naval Air Technical Arsenal report on the Model 10 Rocket Launcher for the Type 97#6 Land Bomb; dated February 1944. 15 pp.

Item #8635 (13 October 1944). Tables of symbols used by Japanese ordnance plants and ordnance depots. 4 pp.

Preliminary POW Interrogation Report No. 78 (13 October 1944). Interrogation of an artillery private captured on SAIPAN. Description of POW's reaction to surrender inducements. Information on food supply and rationing in JAPAN. Considerable new information on airfields and factories in vicinity of NAGOYA; sketch-maps. 16 pp.

ERRATA

In "Weekly Intelligence", Vol. I, No. 14, article entitled "The Jap Naval Air Force, a Synopsis", second paragraph on page 21 should be corrected to read "It moved to the MARIANAS following our February, 1944 (not September) successes, and until May, etc."

CINCPAC-CINCPHO Item No. 10,987, pages 1 and 2, for "CV RYŪJŌ" read "CVL RYŪHŌ" (entry for 27 March 1944).

[29]

JAP ARMY HQ

(Note: The following article was prepared by the War Department. Much of the information is included in the new edition of TM 30-48.)

The Emperor.—The Japanese Constitution provides that the Emperor is Commander-in-Chief of the Army and Navy, that he determines their organization, and that he declares war, makes peace and concludes treaties. He is advised by two military councils, namely, the Board of Marshals and Admirals and the Supreme Military Council.

Imperial General Headquarters.—In wartime or in case of grave emergency an Imperial Headquarters is established under the supervision of the Emperor to assist in the exercise of supreme command. It consists of the Chiefs of the Army and Navy General Staffs, the Ministers of War and of Navy and a staff of specially selected officers.

Army Heads (Corresponds to U. S. War Dept.).—Subordinate to the Emperor and Imperial Headquarters the direction of the Army is in the hands of four principal agencies. These are:

The General Staff (SAMBO HOMBUR)

The Ministry of War

The Inspectorate General of Military Training

The Inspectorate General of Aviation

The General Staff.—The General Staff comprises five bureaus: General Affairs, Operations, Intelligence, Transport and Historical. It is charged with the preparation of war plans, the training and employment of combined arms, the direction of large maneuvers, the movement of troops, the compilation of field service regulations, maps and military histories, and with supervision of the General Staff College, Land Survey Department and probably the Fortress Headquarters. The Chief of the General Staff is appointed by the Emperor. The General Staff is organized as shown in Figure 2. Sources available to the War Department prior to 1941 indicated that the five Bureaus of the General Staff were further subdivided into numbered Sections. However, recent sources, such as the 1942 Army List and recent Transfer Lists do not confirm the numbering of the Sections. The Sections apparently are still in existence, but it is not known how many there are, nor are their functions known.

The Ministry of War.—The Ministry of War is the administrative, supply, and mobilization agency of the Army. Its chief, the Minister of War, is a member of the Cabinet and provides liaison between the Army and the Diet. He must be a general or lieutenant general on the active list and he is directly responsible to the Emperor. The Ministry of War is subdivided into the Secretariat and eight bureaus.

[30] *The Inspectorate General of Military Training.*—The Inspectorate General of Military Training consists of a general affairs bureau, a so-called 2nd Bureau (DAI NI BU), and several inspectorates, and is responsible for technical and tactical training of the separate arms, except the Air Corps, and of services not under the War Ministry.

The Inspectorate General of Aviation.—This agency was created by an ordinance issued 7 December 1938 to supervise Air Corps training. It comprises a General Affairs Department and a Training Department and is headed by a general or lieutenant general. In aviation training matters only is it directly responsible to the Emperor; in other respects, the Inspector General of Aviation is subordinate to the "Big Three" (Chief of General Staff, War Minister, and Inspector General of Military Training.) The Inspector General of Aviation may be said to rank with but after the "Big Three".

(Figures 1 and 2, appearing at this point in Exhibit No. 5, are tables of organization of the Japanese High Command and the Japanese Army General Staff Headquarters, respectively. These tables will be found reproduced as Items Nos. 52 and 53, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

The Air Headquarters and the Army General Staff.

The relationship of the Army General Staff and the Air Headquarters has come to be very close. Nominally the Army Air Force Headquarters (RIKUGUN KOKU HOMBU), as the highest tactical command, comes far down the chain of subordination from the Army High Command and under the Inspector-General of Aviation rather than under the Chief of the Army General Staff. But during the TOJO regime one and the same general, Jun USHIROKU, occupied the posts of Vice-Chief of Staff, Inspector-General of Aviation, and Chief of the Air Headquarters. It is not clear, however, that so close a relationship, bringing tactical command of air operations directly into the office of the Vice-Chief of Staff, is to continue. In the shuffle of commands after TOJO's fall, General USHIROKI was relieved of his aviation posts. For the first time an Air Officer, Lt. Gen. Michio SUGAWARA, was placed in command of the Inspectorate-General of Aviation. He was made commander of Air Headquarters simultaneously, thus continuing the now customary combination of the posts. But he had not at any time been a General Staff Officer, and his appointment may mean the reversal of the trend away from Air Force autonomy which USHIROKU's position had climaxed.

Nominally, of course, the Inspectorate-General of Aviation is one of the [32] four agencies of the Army High Command, along with the War Ministry, the General Staff, and the Inspectorate-General of Military Education. Like the other three, it is responsible only to the Emperor.

The Supreme War Council and the Army General Staff.

The new Koiso cabinet has introduced a new element into the picture of the Japanese High Command in the formation of a Supreme Council for the Direction

of the War. Domei transmitted a rush bulletin 5 August announcing the Supreme Council (SAIKO SENSO SHIDO KAIGI) as follows:

"Having received Imperial Sanction, and in order to formulate a fundamental policy for directing war and in order to adjust the harmonization of the combined strategy of politics and war, a Supreme Council for the Direction of War has been hereby established."

More recently a 14 September broadcast ascribed more specific functions to the Council. It was created, according to the announcement, to "harmonize and adjust state affairs and the High Command." Its function is "to unify the administration and the strategy of carrying out the task of modern warfare, but also extends to deciding the basic policies of administration, foreign affairs, and economy." Broad as such powers seem, the procedure outlines for the Council seems to place it high enough to carry them out. "The procedure of the Council," the announcement went on, "is to hand down to the Cabinet supreme policies decided by the Council which * * * the Cabinet and the various Ministries will * * * put into force."

The new Council, then, becomes the supreme power in the Empire, relegating the Cabinet to the position of an administrative body. The announcement of 14 September in fact called it "a powerful combined strength of the Army and Navy * * * the fountainhead from which the measures to be enacted by the KOISO-YONAI joint cabinet will originate."

As the only source of information on the new Council is the official announcements of the Japanese, one must turn to inference for further explanation of its creation and function. Much light can be drawn from the composition of the Council. While no persons were named, the Japanese did announce its membership to include the War and Navy Ministers, the Chief of the Army General Staff, the Chief of the Navy General Staff, and the Board of Fleet Admirals and Field Marshals.

The Council's membership, thus, represents a broadening of the basis from which Army and Navy influence upon JAPAN's war decisions can be drawn. It is to be observed that the Council's members are the members of the Imperial General Headquarters, plus senior officers of Army and Navy. The Board of Fleet Admirals and Field Marshals already exists as a body, made up of elder statesmen in the two military branches, advisory to the Emperor on matters of military policy. To include them in the new Council is an obvious means of calling upon a wider circle of Army and Navy opinion and healing the rift so evident between Army and Navy [33] in the last months of TOJO's regime. Significantly, too, the Japanese have reverted to the practice of setting up a headless group in supreme place, combining in the new Supreme Council nearly all the reins of command over Cabinet and Armed Forces alike which TOJO had gathered into his own hands. Significantly, too, the same officers who ran JAPAN's war effort as the Imperial General Headquarters, still do so, as the nucleus of the Council.

The evidence is thus that the General Staff of the Army still functions behind the scenes as one of the chief ruling bodies of JAPAN. The new KOISO cabinet has brought it still closer, perhaps, to the Navy, but it has not changed its role and its influence.

5 CM GROUND-MOUNTED NAVAL GUN

Information concerning this weapon is incomplete in view of the fact that plans were missing when the weapon was captured. However, examination has revealed several points not covered in a preliminary report published in "Weekly Intelligence," Vol. I, No. 5.

This weapon is a naval gun adapted to a ground mount, apparently designed from a British piece. Principle data on the gun includes:

Overall weight: 500 lbs. (approx.)	Elevation: -11° to -21°
Length of tube: 4'8"	Traverse: None.
Recoil: 6'	

It is equipped with a box-type single trail with a lunette through which a stake is driven to prevent the gun from moving to the rear when fired. There are no spades. The trunnions are attached to the one-piece, cold-worked steel tube at the center of gravity and mounted on the extension of the trail directly above the axle.

The breech cannot be opened when the maximum elevation is approached because of interference of the trail.

The photo below shows the captured gun.

(The photograph referred to *supra*, being of a Japanese 5 CM Ground-Mounted Naval Gun, will be found reproduced as Item No. 54, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

JAPANESE TYPE 3 LAND MINE

A Japanese document captured in the MARIANAS presents an explanation of a new type land mine. This is the first data available to Allied forces. It is important to note that data on this mine is derived from an enemy document and is not yet verified by contact in combat. The mine, known as the Type 3 Land Mine, has no exposed parts made of metal, and its presence would be extremely difficult to detect by use of standard mine detecting equipment. The case is made of terra-cotta, is circular in shape and has an earthen collar. The outer surface is unglazed. The fuze body, cover, plunger and striker support are made of bakelite. The fuze seat is of hard rubber. The springs, pins and striker, all contained inside the fuze, are the only metal parts in the mine.

The mine is manufactured in two sizes. The larger mine is 27 cm (10½ in.) in diameter and 9 cm (3½ in.) thick. It contains approximately 3 kg. (6½ lbs.) of explosive and is assertedly effective against personnel at a radius of 10 meters (33 feet). The smaller mine is 22 cm (8½ inches) in diameter and 9 cm thick, contains 2 kg. (4½ lbs.) of high explosive and has an effective anti-personnel radius reported to be about 8 meters (26 feet). Both mines are considered to be effective against the tracks of a heavy tank. The bursting charges may be of any of the following composition: Ammonium nitrate (50%) TNT (50%); Ammonium nitrate (90%) Dinitro naphthalene (10%); Ammonium perchlorate (75%) Ferro-silicon (16%) Sawdust (6%) crude oil (3%).

The most interesting development in the new mine is the fuze. It may be detonated by pressure of pull after the safety pin has been removed, and, according to the document, will function satisfactorily even after being buried in the ground for long periods of time. A percussion hammer located within the fuze is held in position by a release fork to which a trip wire may be attached. When the wire is pulled, the fork releases the hammer which is forced downward by the percussion hammer spring. The hammer comes in contact with the striker forcing it against the percussion cap. When pressure is applied directly on the head of the fuze, the plunger spring is compressed, and the entire plunger group, moving as a unit, is forced downward. The hammer comes in contact with the head of the striker and again forces it against the percussion cap. A pressure of approximately 2 kg. (4½ lbs.) or a pull of about 10 kg. (22 lbs.) is stated to be required to cause detonation.

(The sketch referred to, *infra*, being of a section of a Type 3 Land Mine Fuze, will be found reproduced as Item No. 55, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

The fuze is threaded so as to be interchangeable with the standard type 88 instantaneous impact and type 100 dual action artillery fuzes. By substituting it for one of the standard fuzes, any common mortar or howitzer shell may be converted into a very effective land mine or booby trap. It may also be inserted into a block of picric acid, TNT or other explosive and used similarly.

The mine's sensitivity to detonation by a normal fall is stated to be negligible. Dropped from a height of 0.5 meter (1½ feet) onto a concrete floor, the mine will assertedly not explode, and it can safely be dropped on ordinary ground from a height of 4 meters (13 feet).

Because of its color and unfinished surface, the mine may be easily camouflaged in almost any terrain. It is considered to be greatly superior to previously reported mines designed for the same purposes.

The preceding sketch and following photos are captured photographs showing details of this Type 3 Land Mine. Most of the information presented herein was derived from CINCPAC-CINCPHA Item No. 11,431 which will not be published in any other form.

(The photographs referred to *supra*, being two in number and having several items on each photograph, are as follows:

1. [a] Sketch of a Type 3 Land Mine; [b] photograph of Type 3 Land Mine and Fuze; [c] photograph showing packing of Type 3 Land Mine; and [d] photograph of fragments from Type 3 Land Mine.
2. [a] Photograph of Type 3 Land Mine with trip wires tied to sticks of wood; [b] photograph showing explosion of Type 3 Mine; and [c] photograph showing component parts of Type 3 Land Mine Fuze.

These photographs will be found reproduced as Items Nos. 56 and 57, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

(At this point in Exhibit No. 5 there appear six separate items with several photographs on each item as follows:

1. Three views of a wrecked phosphate plant at Angaur.
2. [a] Photograph of small boat basin north of Angaur; [b] photograph of phosphate loading pier, Angaur; and [c] photograph of destroyed warehouses in Angaur.
3. [a] Photograph of a Jap 37 mm anti-tank gun in covered emplacement on Saipan; [b] photograph of Jap pillbox defending western side of Angaur; and [c] photograph of a personnel shelter.
4. [a] Photograph of a Jap 75 mm gun emplacement near Middle Village, Angaur; and [b] two views of a Jap 75 mm anti-aircraft gun at Angaur.
5. [a] Photograph showing manner in which Japanese at Angaur strung heavy rope between trees on the beach; and [b] two photographs showing two types of anti-boat obstacles encountered at Angaur.
6. [a] Photograph of remains of Jap lighthouse demolished by naval gunfire prior to U. S. landings at Angaur; and [b] photograph of an anti-tank trench along beach near a Saipan town.

The foregoing material will be found reproduced as Items Nos. 58, 59, 60, 61, 62, and 63, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

YAP

[43] Outflanked YAP, Jap island outpost between new U. S. bases at PELELIU and GUAM, was an important secondary target during landings in southern PALAU. YAP's military installations were extensively worked over by Allied surface units and aircraft, with results indicated in the photographs reproduced here.

In pre-war days, YAP—a compact group of four large and ten small islands, with a land area of only 83 square miles—was known chiefly as an important cable station and as the home of curiously primitive natives. YAP was linked by cable with PALAU, MENADO, the PHILIPPINES, and the Empire, as well as GUAM and the UNITED STATES. Anthropologists and ethnologists were intrigued by the natives, whose superstitions have persisted despite the efforts of missionaries.

Sensing impending U. S. moves in the CAROLINES, the Japs in early 1944, began an airfield on RULL Island. A prisoner claims the field was completed in April. According to this POW, elements of the 343rd, 523rd and 261st Air Groups were based here. Maximum A/C strength prior to our strikes was estimated by the prisoner as 40 bombers and 60 fighters, although photo reconnaissance never showed more than 45 planes.

Military installations on YAP include one airfield, three radio stations, radar and RDF installations, and a small seaplane base. These are protected by strong coast defense and AA gun positions as well as anti-invasion defenses. Beach defenses were strengthened recently and many new boat barriers constructed. It is difficult to assess the admitted heavy damage suffered by YAP; the airfield has however, definitely been neutralized.

The Jap garrison strength of YAP is estimated as about 8,000. Of this figure, 5000 are reported attached to the 49th Independent Mixed Brigade, 800 to the 46th Guard Force, plus 1200 air base personnel and about 1000 construction personnel. Women and children, said a POW, were evacuated to PALAU sometime ago.

(At this point in Exhibit No. 5 there appear four photographs as follows:

1. Photograph of Yap town under attack by carrier planes.
2. Photograph showing burning aircraft at Yap's soggy airfield.
3. Photograph showing the bomb-scarred and shell-pocked re-
vetment area of Yap's airfield.
4. Photograph showing a marine rifleman leading the way for
a General Sherman tank at Horseshoe Valley, Peleliu.

The foregoing paragraphs will be found reproduced as Items Nos. 64, 65, 66, and 67, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

Confidential
20 Oct. 1944

JAPANESE AERIAL TACTICS AGAINST SHIP TARGETS

"KNOW YOUR ENEMY!"

(Addendum to CinCPac-CinCPOA—"Weekly Intelligence" Vol 1, No. 15)

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(At this point in Exhibit No. 5 there appears a sketch caricaturing a Japanese aviator throwing a bomb by hand. This sketch will be found reproduced as Item No. 68, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[1]

INTRODUCTORY

This study brings together an assortment of documentary evidence bearing on Japanese tactical doctrine for aerial operations against ship targets. No attempt has been made here to collate available information on other phases of Jap aerial warfare.

Although most of the material contained in this study is drawn from official Japanese documents, this has been supplemented by such unofficial documentary and POW information as appears to be logical and consistent.

It is important to note that the tactics outlined represent Japanese *theoretical* doctrine, and may not be followed in combat.

Exact evaluation of such tactical information is difficult, because: (1) battle experience postdating available evidence may have changed enemy concepts; (2) operating units in any given case may not rigidly adhere to official doctrine; (3) it is not clear whether some documents reflect the tactical thinking of a particular Air Group or that of the Naval Air Force.

One final word of caution must be added. Study of this article will quickly reveal that the enemy has given much thought to the problem of tracking fleet units and guiding the attack group into the position for a run. Fairly elaborate

tracking and liaison methods have been developed. These may well become outmoded and of scant importance as Jap airborne radar improves.

Despite the limitations indicated above, however, the material presented here is believed significant. It forms a fairly comprehensive background for the study of Jap tactics as well as a basis on which future tactics may be assessed.

SEARCH AND RECONNAISSANCE

The doctrine for the Southeast Area Fleet succinctly points out that the function of a *recce* unit is reconnaissance, and warns the unit to avoid combat if this would interfere with the primary mission.

The normal search radius for a medium bomber (BETTY) is 600-660 nautical miles, or, in the event of anticipated action, 700 miles. *Recce* seaplanes (JAKE) may be expected to search a radius of 250 to 300 nautical miles, and carrier attack planes (JILL) 350 nautical miles. Flying boats (EMILY) may fly a radius of 1000 to 1200 nautical miles.

A captured chart, reproduced as Figure 12, in the center spread of this addendum, sets forth a comprehensive search plan for TRUK, PALAU, WOLEAI, and SAIPAN. The date of the document is not given, but appears to refer to projected enemy searches in April (1944). All the sectors shown were not to be covered each day. Sectors to be flown were to be selected either by the day or according to a general plan. In some cases, it is known that the odd-numbered sectors were covered on even-numbered days, and vice-versa. Of course, if there was any indication of an Allied amphibious operation from a given direction, or if Allied ships or subs were sighted, searches were to be concentrated in this area.

[2] The following search plans, designed to meet particular tactical situations, have been taken from captured documents:

(A sketch relating to the "Patrol Search Method" mentioned in the succeeding paragraph will be found reproduced as Figure No. 1, Item No. 69, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This is designated as the "*patrol search method*", and is recommended for night searches.

Each plane flies in an angular figure eight, dropping a flare each time it crosses its base point. After a given patrol line has been covered the planes advance to a new patrol line in the direction of the enemy force.

(A sketch relating to the "Search Sector Method" mentioned in the succeeding paragraph will be found reproduced as Figure No. 2, Item No. 69, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This is designated the "*search sector method*". It is specified for use when the course of the enemy is not known and when it is necessary to carry out an abbreviated search with a small number of planes.

In this method target lights are dropped at the four corners of a square and the aircraft flies back and forth in parallel lines within the marked area.

(A sketch relating to the "Sweep Search Method" mentioned in the succeeding paragraph will be found reproduced as Figure No. 3, Item No. 69, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This is designated as the "*sweep search method*". This method is used on moonlit nights when the visibility is particularly good, or when the object of the search is a large force.

In this method a number of planes fly out from a common base and advance in parallel lines.

(A sketch referring to a "Night Search Method" mentioned in the succeeding paragraph will be found reproduced as Figure No. 4, Item No. 69, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[3] This is a "*night search method*" for use by a radar-equipped plane.

The "a" on the diagram varies with the altitude. If radar conditions are favorable, it will be determined according to Table 1, (which follows the next

search plan). If radar conditions are unfavorable, the value for "a" will be decreased to correspond with the decreased efficiency of the radar.

(A sketch relating to a method used for "Night Search" mentioned in the succeeding paragraph will be found reproduced as Figure No. 5, Item No. 69, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This method is used for "*night search*" employing two planes equipped with radar. Distance "d" is set by the commander of the unit and is based on the degree of certainty of the general position of the enemy and the lapse of time between the time of the discovery of the enemy and the beginning of the search. The value for "a" is determined by the following table. The search is planned so that a rectangle with sides of 2 "d", which has as its center the presumed location of the enemy, will be thoroughly searched.

Altitude, meters ----- feet -----		Over 1500 5000	750-1000 2500-3300	500-750 1650-2500	200-500 600-1650
A	Flying Boat -----	60 nautical miles ..	45 nautical miles ..	40 nautical miles ..	30 nautical miles ..
	Recece Seaplane ..	40 nautical miles ..	35 nautical miles ..	30 nautical miles ..	20 nautical miles ..

Table No. 1

(Comment: This chart probably reflects a fairly realistic Japanese conception of the ranges of their own radar installed in EMILYs and JAKEs at the altitudes shown.)

(A sketch relating to "Search Plan for Use When the Distance Involved Is More Than 500 Miles" mentioned in the succeeding paragraph will be found reproduced as Figure No. 6a, Item No. 69, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[4] This is a "*search plan for use when the distance involved is more than 500 miles*". The various factors, such as distance of the sally "R", the deployment angle (c) (45 degrees in the absence of special orders), the intervals between search lines (b), the lateral distance to be covered (e) and the number of planes to be used, are determined in advance. The interval "b" is less than twice the range of visibility.

This method is used when the course of the enemy is not known or it is thought that it may intersect the search base line at a large angle.

(A sketch referring to the next succeeding paragraph, being a plan used when it is thought the angle of intersection of the course of the enemy and the search base line will be small, will be found reproduced as Figure No. 6b, Item No. 69, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This plan is used when it is thought that the angle of intersection of the course of the enemy and the search base line will be small.

(A sketch showing a search plan "for daily patrol on long distances of over 500 miles" will be found reproduced as Figure No. 7a, Item No. 69, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This method is used principally "*for daily patrol on long distances of over 500 miles*". The interval "b" is less than twice the range of visibility. The lateral distance (1) will be $\frac{9}{10}$ of the total width of the search out made by planes turning in the same direction. The return angle (E) will be from 0 to 15 degrees depending on the anticipated angle of intersection between the course of the enemy and the base line of the search.

This plan is used when the number of planes available is large.

(A sketch showing a search plan for daily patrol on long distances of over 500 miles where the number of planes available is small will be found reproduced as Figure No. 7b, Item No. 69, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[5] This method is used under the same circumstances as 7a where the number of planes available is small. The symbols have the same meaning here as in 7a.

(A sketch relating to a search method "when it is possible to predict the enemy's approximate course", mentioned in the next succeeding paragraph, will be found reproduced as Figure No. 8, Item No. 69, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This method is used "*when it is possible to predict the enemy's approximate course*" and when there is a small number of planes available.

(b) interval between the search lines will be less than four times the range of visibility.

(1) lateral distance will be one half of (b).

The search base line must be parallel to the expected course of the enemy.

(A sketch relating to a search method "when an attempt is made to search an area of broad frontage with a few planes" will be found reproduced as Figure No. 10a, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[6] This method is used "*when an attempt is made to search an area of broad frontage with a few planes*" or, when a rough estimate can be made of the general position, course, and speed of the enemy as in the case of enemy supply routes.

This plan is used when search is to be made in a direction opposite to that of the enemy's course.

Distances 1 and 1' are figured as follows:

$$1 = \frac{2dV_f}{V_f + V_e} \quad \begin{array}{l} V_f \text{ equals plane speed} \\ V_e \text{ equals speed of enemy} \\ d \text{ equals visibility} \end{array}$$

$$1' = 2d - \frac{(2L+1) V_e}{V_f}$$

No method for determining L is given.

(A sketch relating to a search plan "when a search is to be made in close pursuit of an enemy" will be found reproduced as Figure No. 10b, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This plan is used *when a search is to be made in close pursuit of an enemy*. The distances 1 and 1' are determined as follows:

$$1 = \frac{2dV_f}{V_f - V_e}$$

$$1' = 2d - \frac{(2L+L) V_e}{V_f}$$

Symbols have the same meaning as in 10a.

(A sketch relating to a search plan "for use of the night, or when visibility is poor" will be found reproduced as Figure No. 11a, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[7] A plan for use of night, or when visibility is poor. Starting points are selected to the rear of the enemy. The base lines of the search should coincide with the expected course of the enemy.

L—length of search—no method for determining is given.

1—lateral distance—twice the range of visibility plus the length of the enemy force.

A—angle of change of course. Will be 20 degrees except where change indicated.

(A sketch showing an alternate plan of search for use at night or when visibility is poor will be found reproduced as Figure No. 11b, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

An alternate to 11a using three planes.

(A sketch showing still another alternate plan of search at night or when visibility is poor, using four planes, will be found reproduced as Figure No. 11c, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

An alternate to 11a using four planes.

Distance between starting points will be more than twice the lateral distance (1).

(A sketch showing a plan of search to be used on moonlight nights when the visibility is good will be found reproduced as Figure No. 11d, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[8] This plan is to be used on moonlight nights when the visibility is good. The symbols have the same meaning as in 11a. In this plan the base line may be at right angles to the enemy's course. This illustration shows the plan as it operates with three planes.

TRACKING

After a target has been located, it is followed by one or more planes until such time as the Japanese attack unit is in a position to attack.

Flying boats (EMILYs) and recce seaplanes (JAKES) are used in night tracking, (i. e., from about two hours after sunset until about an hour and a half before dawn). During the daytime less vulnerable planes are used.

According to one source, night tracking operations should be carried out at altitudes of 2500 to 5000 feet, while in the daytime, dependent largely on the visibility, higher altitudes are flown.

The following series of rather rough tracking plans are taken from a captured notebook, with the comments. These plans are designed for use at night.

(A sketch showing an elliptical maneuver in tracking the enemy will be found reproduced as Sketch No. 1, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

Elliptical maneuver. To be used during good visibility when the pilot can track the enemy while keeping him in sight by contact flying.

In this maneuver the pilot flies "d" distance away from the target, which is said to be about 8200 feet.

(A sketch showing a maneuver used to track more than one ship will be found reproduced as Sketch No. 2, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[9] This is a maneuver used to track more than one ship, and "d" again represents the limit of visibility (about 8200 feet), while the distance fore and aft from the target is 3300 feet. This short distance is flown in order to make a close reconnaissance of the target.

(A sketch showing a tracking maneuver used for the purpose of making a close reconnaissance on one ship will be found reproduced as Sketch No. 3, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This maneuver is used for the purpose of making a close reconnaissance on one ship. Three sides of the box are flown at the limit of visibility, while the fourth side is flown at 3300 feet.

(A sketch showing a tracking maneuver when the wind is of high velocity will be found reproduced as Sketch No. 4, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This maneuver is flown at approximately right angles to the course of the ship at times when the wind is of high velocity. The probable purpose is to keep the plane in sight of the target without running quickly down wind and then being forced to buck back against it.

(A sketch showing a tracking maneuver when the wind velocity is

small will be found reproduced as Sketch No. 5, Item No. 70, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This maneuver is likewise flown at right angles to the course of the enemy. It is stated to be effective for use *when the wind velocity is small.*

(At this point in Exhibit No. 5 there appears a chart of Japanese air searches out of Truk, Woleai, Palau and Saipan. This chart will be found reproduced as Item No. 71, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

(A sketch referring to a tracking maneuver when the enemy force is great and there is no danger of losing it will be found reproduced as Sketch No. 1, Item No. 72, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[12] This figure eight should be flown only *when the enemy force is great and there is no danger of losing it* if the plane temporarily loses contact.

(A sketch showing a tracking maneuver when the target can be kept against the moon will be found reproduced as Sketch No. 2, Item No. 72, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This maneuver is to be flown *when the target can be kept against the moon.*

The following tracking plans, all but one of which contemplate the use of radar, were taken from an operation order of the 11th Recce Unit.

(A sketch showing a flying boat tracking method designed for night work will be found reproduced as Sketch No. 3, Item No. 72, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This is a *flying boat method designed for night work.* As indicated in the diagram, the plane flies out of radar range on each leg. The altitude should be as high as possible. The plane employs a lateral beam. (This probably refers to the beam created by the radar antenna mounted on the side of the fuselage, which has been found in some Jap planes.)

(A sketch showing a tracking maneuver designed for seaplanes will be found reproduced as Sketch No. 4, Item No. 72, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[13] This is the same basic method as the one previously shown but is designed for *recce seaplanes.* Forty-five rather than seventy degree turns are employed.

(A sketch showing a tracking method designed for use where there is interference by enemy fighter planes will be found reproduced as Sketch No. 5, Item No. 72, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This method is designed for use where there is interference by enemy fighter planes. It may take any pattern and simply consists of getting a radar contact, flying out of radar range and returning from a different direction until another radar contact is obtained.

(A sketch showing a tracking method to be used after the target is located by radar will be found reproduced as Sketch No. 6, Item No. 72, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

This method is used after the target is located by radar. It is used by flying boats and recce planes. It is designed for two planes. (Apparently one plane describes a rectangle ahead of the target and another in back of the target.)

(A sketch showing a tracing method without the use of radar will be found reproduced as Sketch No. 7, Item No. 72, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[14] This is a method for tracking without the use of radar. It employs target markers.

HOMING THE ATTACK UNIT

Action reports from the early days of the war report the activities of Japanese snoopers planes. Their function is not only to locate and track the target, but to get the attack unit over the target in a position for an attack. In some cases the guide plane may be simply a bellwether, equipped with superior communications and navigational equipment and manned by competent personnel. More frequently, however, the guide plane is the snooper, i. e.; a plane in actual contact with the target.

It is clear from documents that the attack unit, or a relief tracking plane, may be brought in on the radar of the snooper or by the use of RDF equipment. The tracking plane is advised to keep the radar and communication transmission at a minimum during the tracking operation. However, when the time coming in for the attack. A sudden increase in communications, or the commencement of the transmission of RDF, is a reasonable indication that an attack group or a relief plane is being homed in to the target. The following table, which was an annex to an official order (source and date unknown), gives the communication between the attack unit and the tracking plane. The general authenticity of the pattern set forth is corroborated by fragmentary references found in other documents.

(Note: Those marked * to be used only when necessary)

Attack Unit	Tracking Unit	Notes
Expected time of arrival over battle area.	Discovery of enemy: Strength, positions, base course, speed.	For dive bombing report accurately the wind direction and velocity at 1600 feet. For low altitude bombing (TN: below 3300 feet) report the wind direction and velocity at 650 feet.
Direction of approach.	[15] Weather in enemy area. Standard altitude for tracking position.	Direction of approach. Direction of approach is that of course at time of approach.
*Method of Attack Method No.		Unless under special order, direction of approach is from direction of moon or of twilight. Method of Attack. <ol style="list-style-type: none"> (1) Unilluminated torpedo attack. (2) Illuminated torpedo attack. (3) Unilluminated dive bombing. (4) Illuminated dive bombing. (5) Unilluminated low altitude bombing. (6) Illuminated low altitude bombing.
Commerce transmitting RDF guide Beam! (MUSEN YUDO).	We are transmitting RDF guide beam.	Unless under special order, commence transmitting RDF guide beam 45 minutes before attack unit reaches battle area.
*Drop parachute flares!	We are dropping parachute flares.	The RDF guide beam plane, ten minutes before attack unit reaches battle area, will put out Aldis signalling light in direction of attack unit and will attempt to guide it. "Drop parachute flares!" Each time one white flare is dropped over the enemy.
(Continue to drop parachute flares!)		Continue to "drop parachute flares!" Flares are dropped at about two minute intervals.
*We recognize the tracking unit's parachute flares.		About three course target lights, (KHOHMOKU HYOTEI) or flare landing lights (SHOMEI TODAN CHAKUSUI SHOMEITEI) are dropped near the enemy. They are dropped ahead with regard to the speed of the enemy. On this occasion, if the situation warrants it, low altitude bombing (TN: below 3300 feet) may be carried out.
[16] *Indicate enemy position!	Enemy speed. Report of enemy course.	Reported without fail if it is to be a torpedo attack. If the situation warrants it, pyrotechnics may be used as well as radio.
		Parachute flares GREEN: Enemy changing course to starboard. GREEN-GREEN: Enemy changing course sharply to starboard.
		RED: Enemy changing course to port. RED-RED: Enemy changing course sharply to port.
*Commence illumination! Peel off!		Parachute flares, Model 2, dropped so as to form a continuous illuminated background. In the event that the attack unit is to illuminate by itself, if necessary, it will maintain constant illumination (HOSOKU SHOMEI WO NASU).

A captured notebook states that the RDF should be transmitted thirty minutes before the estimated time of arrival of the attack unit.

When the RDF system of homing is used, it is apparently intended that the tracking plane shall guide the attack unit over the target and not to the guide plane. In two separate sources, diagrams illustrating the method of guiding the attack unit in seem to emphasize this point. One of the diagrams is as follows:

(The diagram referred to in the foregoing paragraph illustrating a method of guiding an attack unit in will be found reproduced as Sketch No. 1, Item No. 73, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[17] (Comment: If this scheme is followed, the target, by intercepting the RDF signal, should be able to determine the line upon which the attack unit is approaching.)

The tracking plane is instructed to fly at a low altitude while transmitting RDF and it is stated that where the distances are short and the altitudes high there is likely to be great inaccuracy in the directions indicated. It is further stated that the method is practically useless at altitudes of greater than 6500 feet.

ILLUMINATION

Japanese doctrine states that targets should be illuminated only when there is not sufficient natural light. The following table gives the periods when it is considered that illumination should be used.

Moon Age	Visibility	Illumi- nation
10-20 days.....	Visibility good but with some mist and cirrus clouds.....	No.
5-10.....	} Visibility good but with light mist.....	No.
20-25.....		
1-5.....		
26-28.....	} Regardless.....	Yes.

(Comment: Despite the above, it is noted that throughout discussions of illuminated attack, continual reference is made to the method of approach in which there is an assumption of some moonlight.)

Approaches should always be made so that the target is between the attack unit and the moon. (This piece of advice constantly recurs in documents.) The attack should be timed to take advantage of the greater visibility of the target when the moon is above 10 degrees and below 50 degrees above the horizon. It is more difficult to see the target when the moon is high.

[18] The actual illumination of the target may be accomplished by the tracking plane or by a couple of planes from the attack unit especially designated for the job. In either event, the technique is the same. When the attack unit is 20 nautical miles from the target, the tracking plane drops course lights in the rear of the target. As soon as the attack unit is able to see the course lights, it maneuvers to approach from the proper position with respect to the moon. When in proper position, the attack unit gives the signal for the illumination at which time para-flares are dropped on the side of the target away from the attack unit. One prisoner of war has stated that the flares are dropped to form a Vee, with the point indicating the direction from which the attack should be made, and it is noted that the following illustration seems to confirm that statement.

(A sketch referring to the foregoing paragraph and showing a method of dropping flares to form a Vee, will be found reproduced as Sketch No. 8, Item No. 72, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

One source claims that planes of the attack unit are supposed to drop flares at intervals of five to seven minutes when they are within 50 nautical miles of the target. This is so basically unsound from a tactical stand-point that the Japanese would probably do so only if the other methods of homing were proving completely inadequate.

Some sources indicate, as does the communication table in Section III, that flares should be dropped directly over the target. This, it is thought, would be

done when it was otherwise difficult to inform the attack unit of the position of the target prior to the actual illumination.

After each plane has made its run or dive it is directed to drop a flare in order to illuminate the target for the succeeding planes of the attack unit.

[19]

THE ATTACK

The Japanese have long recognized the value of a coordinated attack by dive bombers, torpedo bombers and horizontal bombers. In the early days of the war there are examples of such attacks. More recent action reports are more difficult to analyze because they do not show any very clear pattern; this may be due to the relative efficiency of the pilots and to the fact that, in the face of the modern task force, what started out to be well-planned attacks simply break up in the face of the opposition encountered.

In any event, the coordinated attack is planned for the particular occasion and may employ the various aircraft in an almost infinite variety of patterns. Other than statements generally recognizing the value of such an attack, no statements of doctrine relative to the coordinated attack have been found. Hence these notes are concerned largely with dive, glide and torpedo tactics which have been given some attention in documents recovered.

A. DIVE BOMBING

Dive bombers should approach to within 50 nautical miles of the target in normal flight formation. Aircraft should be in close formation in order to maintain their defensive firepower and at the same time simplify communications and receive more effective support from the fighter escort.

Two examples of a normal flight formation are as follows:

(Two examples of a normal dive bomber flight formation, referred to in the foregoing paragraph, will be found reproduced as Sketch No. 2, Item No. 73, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[20] At about fifty nautical miles from the target, a screening formation is taken. (Some documents omit this intermediate step.) A diagram of the screening formation is as follows:

(The diagram referred to in the foregoing paragraph showing a screening formation at about 50 nautical miles from the target will be found reproduced as Sketch No. 3, Item No. 73, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

A high altitude approach is favored if visibility and cloud conditions permit. Approach altitudes of from 13,000 to 33,000 feet are given in various documents, with approaches at 16,000 to 20,000 feet being favored. Observation from the field tends to confirm the later altitudes as reasonably standard.

For night approaches, the following altitudes are given. Full moon (10 to 20 days old) fine weather and good visibility: 10,000 to 13,000 feet. With full moon, light clouds and good visibility, or with full moon, fine weather and a certain amount of mist in the air: 6,500 to 10,000 feet. With new moon (5-10 or 20-25 days) fine weather, and good visibility: 8,000 to 11,500 feet. With new moon, fine weather and misty air: 5,000 to 8,000 feet. It is said that while the above is standard, the succeeding planes may come in at higher altitudes by being stepped up.

At a distance of from 33,000 to 65,000 feet from the target, the attack formation is taken. It consists generally of a column, or, where the attack is to be made from two or more directions, two or more columns. An altitude of 13,000 feet is preferred at this time and is maintained until the order for attack is given, at which time the formation flies to an altitude of about 6,500 feet at an air speed of more than 140 knots.

The planes push over and dive at 60° to an altitude of 1600 to 1800 feet, at which altitude bombs are released. The No. 1 plane peels off first, followed at short intervals by the succeeding planes. It is stated that a smoothly coordinated attack by 36 planes can be accomplished in three minutes, and some reports of attacks in the early days of the war indicate that this is a reasonable estimate.

[21] Normally, the approach is made directly to the target, but it is recommended that:

- a. When the sun is high, fly out of it;
- b. At dawn and dusk, fly out of the dark;
- c. Fly against the blue of the sky rather than the white of the clouds;
- d. Make use of scattered clouds.

When the wind is negligible (below 50 feet per second), it is recommended that the dive be from the bow or stern. If the wind is greater than 50 feet per second, the dive should be made with the wind at the tail of the plane.

There seems to be no particular preference with respect to dives from the bow or stern, although a majority of the diagrams show the dives as being made bow to stern.

The "multiple formation" attack in which different elements come in from different directions is stressed in documents. A typical sketch is as follows:

(The sketch referred to in the foregoing paragraph showing "multiple formation" attack in which different elements come in from different directions, will be found reproduced as Sketch No. 4, Item No. 73, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

Other similar diagrams show the second and third sections attacking at angles of 20° on the bow. Where there are only two sections, the bow to stern dive from dead ahead is omitted.

The preferred evasive tactic is a high speed, low altitude retirement along a predetermined course.

The No. 1 plane performs an important function in that it indicates the target, its course and speed; the wind direction and speed; the point of aim; bomb release altitude; direction of retirement; and rendezvous point. The planes following No. 1 observe its bomb drops and correct on them.

It is estimated that to make five or six direct hits 18 planes are required, of which eight will be shot down.

[22]

B. GLIDE BOMBING

The general doctrine applicable to dive bombing is applicable to glide bombing. Glide bombing is prescribed when, because of visibility, sufficient altitude cannot be gained for dive bombing. It seems to be standard for night attacks.

The push-over into the glide is at 3300 feet. The angle of the glide is 40° to 45°. The bombs are released at 1000 feet during the day and at 1300 feet at night.

C. TORPEDO ATTACKS

There is relatively little documentary evidence on Jap torpedo doctrine. Information available indicates that the approach formations are very similar to those employed in dive bombing.

Standard approach altitude is stated to be 6500 to 10,000 feet. Observations in recent encounters indicate that when within radar range an altitude of 160 feet or less is used. One prisoner of war stated that the approach until near the formation was at 3300 to 5000 feet after which the planes dropped to about 160 feet.

When the attack has started, the aircraft fly in a loose string, although in the face of heavy AA they may come in line abreast on a broad front. Diagrams of torpedo attacks follow:

(The diagrams of torpedo attacks mentioned in the foregoing paragraphs will be found reproduced as Sketch No. 5, Item No. 73. and Sketch No. 9, Item No. 72, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

[23] There are documentary references to an individual method of approach, in which the torpedo plane approaches on a course parallel to that of the target and then turns in toward the target for the drop.

One source states that the torpedo should be dropped from altitudes of 160 feet at an air speed of 160 knots; according to other sources, from 330 feet at an air speed of 140 to 160 knots. Reports indicate that torpedoes have been released at altitudes varying from 50 to 500 feet.

The release point is uniformly stated to be 2600 to 4000 feet depending on the course of the target. (Horizontal distance.)

(A sketch showing three release points with respect to the target will be found reproduced as Sketch No. 6, Item No. 73, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

HEWITT INQUIRY EXHIBIT No. 6

(Exhibit No. 6 consists of ONI Document "ONI 220-J, Japanese Submarines", being a compilation of photographs and descriptive data relating to Japanese submarines. This document will be found reproduced, in its entirety, as Items Nos. 74 through 104, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

HEWITT INQUIRY EXHIBIT No. 7

Exhibit No. 7 is a Berthing Plan at Pearl Harbor, 7 December 1941, which will be found reproduced as Item No. 105, EXHIBITS-ILLUSTRATIONS, Hewitt Inquiry.)

HEWITT INQUIRY EXHIBIT No. 8

MESSAGE

Naval message—Navy Department

Director.....	Extension Number.....	Attachments.....	Precedence.....
From: COM 16. Rebanded by..... Date: 16 November 1941. TO: Cutchins.....		Amalgam (?) unknown sub- divisions For action OPNAV.	Priority Deferred
Rebanded by A. V. PERINO. Rebanded by..... Rebanded by.....		Information CINCPAC CINCATL COM 16.	Priority Deferred

Unless otherwise indicated this message will be transmitted with deferred precedence and no administrative.

If Operational
Check below

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Circle time will be delayed prior. Date Time OCT

The outgoing Department please note about one hour that time before beginning test.

COFFE

For past month Commander Second Fleet has been organizing a task force which comprises following units:

Second Fleet, Third Fleet including First and Second Base Forces and First Defense Division, combined Air Force, Destroyer three, Airron seven, Subron Five and possible units of Battle Three from First Fleet.

In messages concerning these units South China Fleet and French Indo China force have appeared as well as the Naval Station at Samsu, Hoku and Takao.

Third Base Force at Palao and New Palao have also been engaged in extensive communications with Second Fleet Commander.

Combined Air Force has assembled in Takao with indications that some components have moved on to Hainan.

Third Fleet units believed to be moving in direction of Takao and Hoku.

Second Base Force appears transporting equipment of Air Force to Taiwan. Takao radio today accepted traffic for unidentified Second Fleet unit and submarine division or squadron.

Cruiser Seven and Destroyer Three appear as an advance unit and may be en route South China.

There is believed to be strong concentration of submarines and air groups in the Marshalls which comprise Airron Twenty-four at least one carrier division and plus probably one-third of the submarine fleet.