

FIGURE VII

NIGHT ATTACK IN WHICH
FLEET CONVERGES ON ENEMY

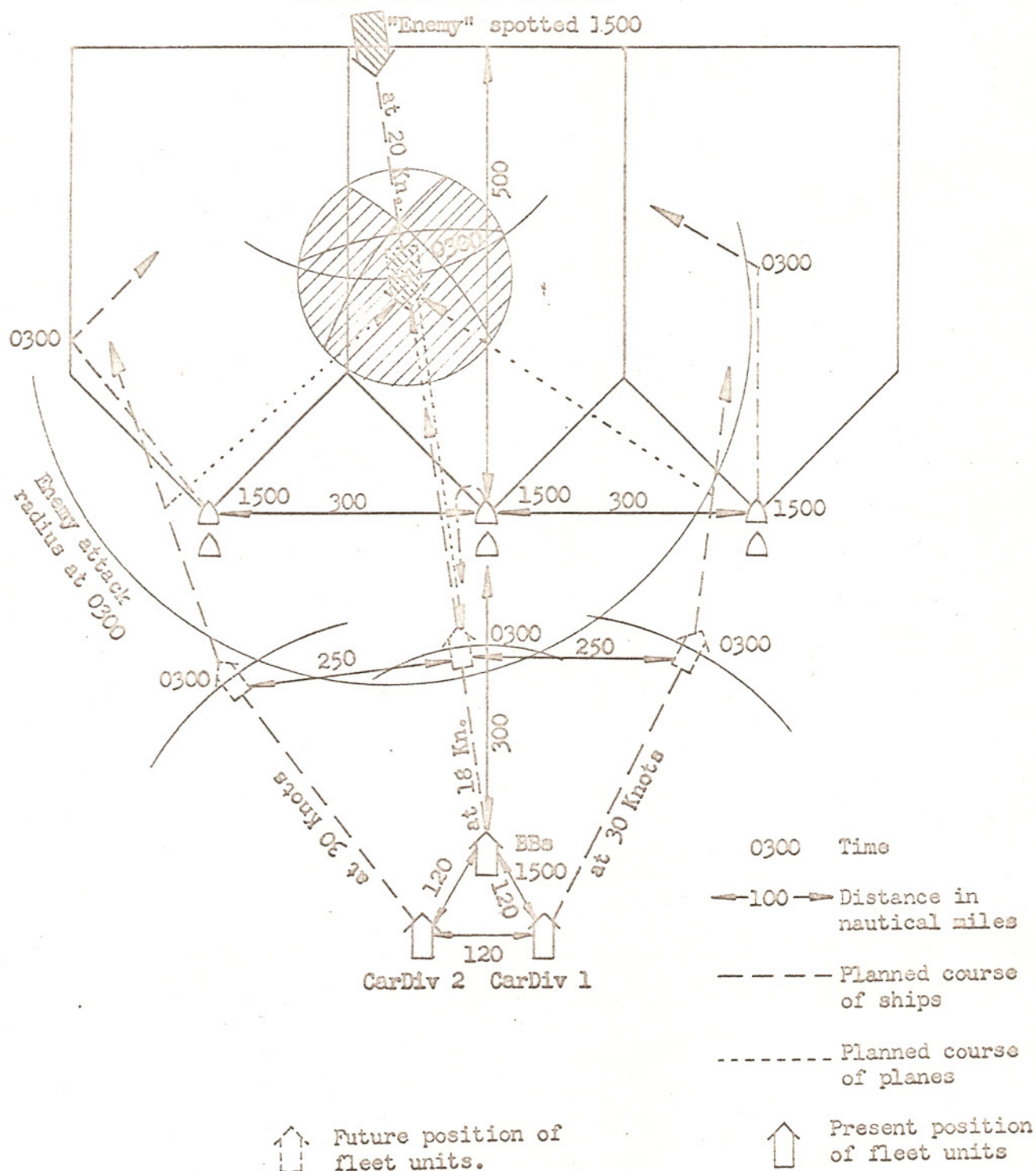
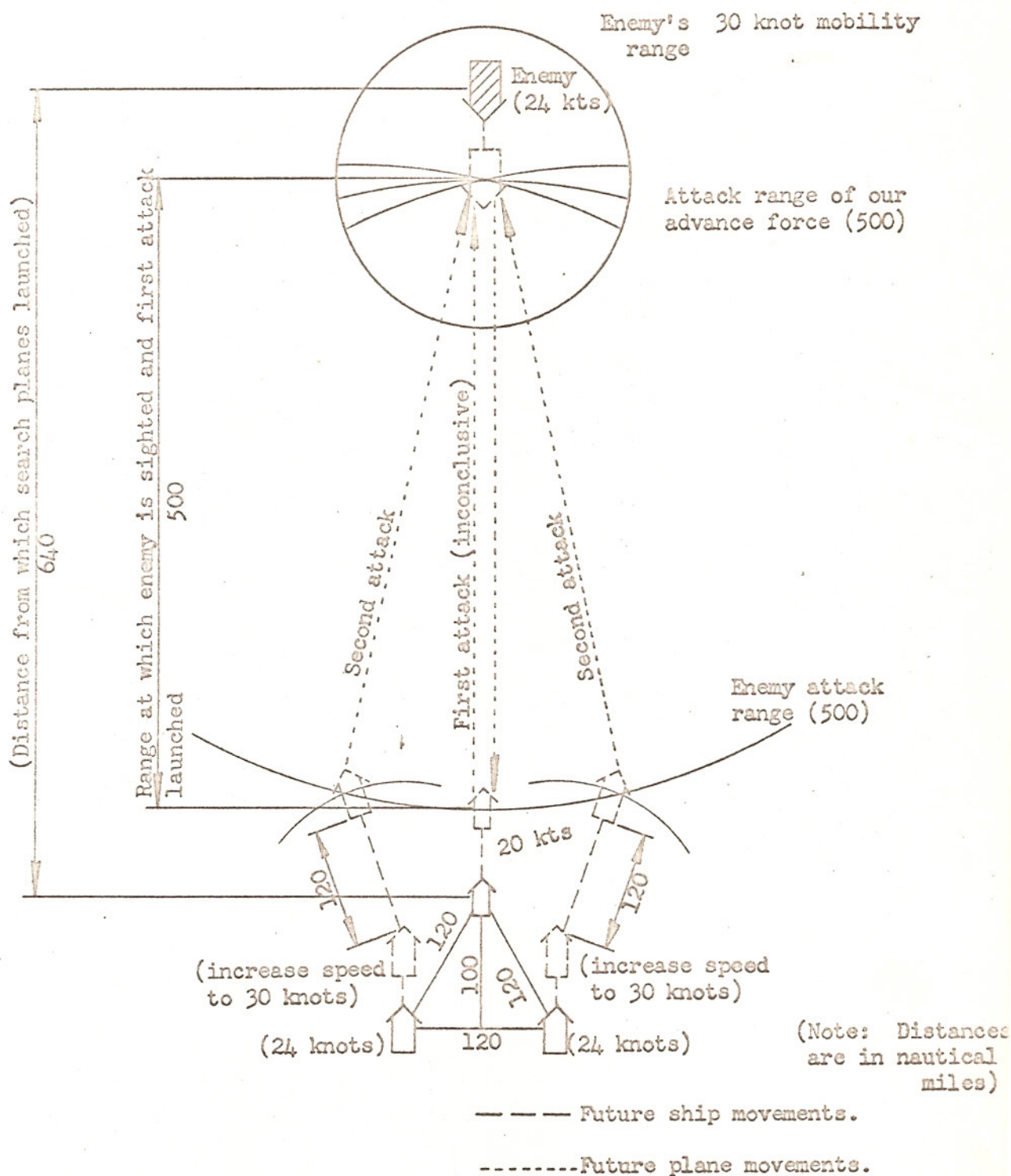


FIGURE VIII

CHART OF OPERATION



The search planes launched when D equals 640 miles should sight the enemy after three hours, when the opposing forces are at 500 miles - in attack range. At this time the advance force will launch its attack unit. The first attack will occur two hours and 20 minutes later. When conditions are the same for both the enemy and us, the first attack will be inconclusive. Meanwhile, our rear force is out of range and can avoid the enemy's attack.

The elapsed time between the launching of the first and second attacks by the same units will generally be six hours and thirty minutes.

To destination:	2 hr. 30 min.
Action	30 min.
Return	2 hr. 30 min.
Recovery	30 min.
Preparation	30 min.

Total 6 hr. 30 min.

Your rear force will advance at high speed for four hours (immediately after contact has been established), entering within range of attack in order to strike the enemy with a second attack before he can launch his second. Execution of this operation is facilitated by dispersion of carrier units in an equilateral triangle with legs of 120 nautical miles.

Computation tables

The following text explains Figures IX, X, and XI.

Directions for using following diagrams.

V_f = Speed of carrier planes

R = Their operational radius

V_s = Speed of carrier

V_e = Speed of enemy ship

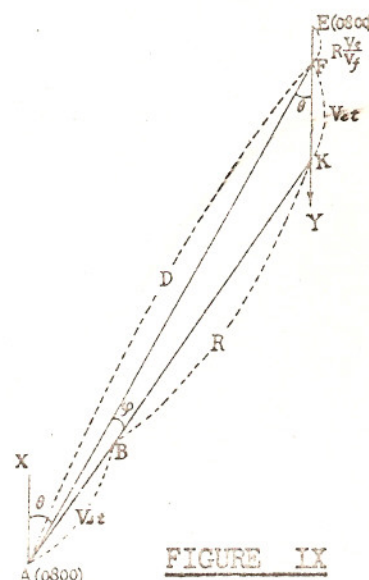


FIGURE IX

In Figure IX the position of the enemy ship at 0800 is E, and its course is EY. At the same hour the position of our carrier is A. Construct a line, AX, parallel to EY through A. Select a point F so that $EF = V_e \frac{R}{V_f} = R \frac{V_e}{V_f}$, and connect points A and F. The angle formed by AX and AF is θ ; $AF = D$.

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In Figure X connect Scale D and Scale R by a straight line (1). Then connect Scale θ and the point of intersection of line (1) and Scale $\frac{D}{R}$ by a straight line (2). The value of φ is determined by the point of intersection of line (2) and Scale $V\varphi$.

In Figure XI connect Scale D and Scale $(\theta + \varphi)$ by a straight line (3). Connect Scale φ and the point of intersection of line (3) and the diagonal 45° to the abscissa $(\theta + \varphi)$ by line (4). Line (4) determines the value of Vet.. Connect Vet and V_e by a straight line (5). This gives us the launching time, t .

Example: When $D = 650$ nautical miles, $R = 400$ nautical miles, $\theta = 30^\circ$,

$V_e = 20$ knots, $V = 30$ knots

Then $\varphi =$ a little over 5° employing Figure X

And $t = 5$ hours and 14 minutes employing Figure XI

Gathering Intelligence

Seizing the initiative and catching the enemy by surprise is a prerequisite of carrier warfare.

Before the start of operations, clarify the enemy's disposition by sub reconnaissance and Base Air Force searches and patrols.

Plan to improve aerial reconnaissance, for we can clearly see that operational requirements have not been fulfilled in the past. Also, plan to increase the number of recce planes on cruisers; by disposing cruisers in advance of the CarDiv, reconnaissance will be accelerated and the attacks of the CarDiv expedited.

Caution is needed to avoid blunders - such as the following:

At the opening of the MORESBY operation we lacked a means for reconnaissance, and so an unforeseen battle arose in the CORAL SEA and forced us to abandon the aims of the operation;

At MIDWAY, no accurate search existed on one flank of our striking force, and the basis for an operational blunder was thus created;

In the Battle of SANTA CRUZ, liaison between the enemy fleet and the base aircraft which attacked us was poor; they were diverted by our vanguard forces and suffered a great defeat.

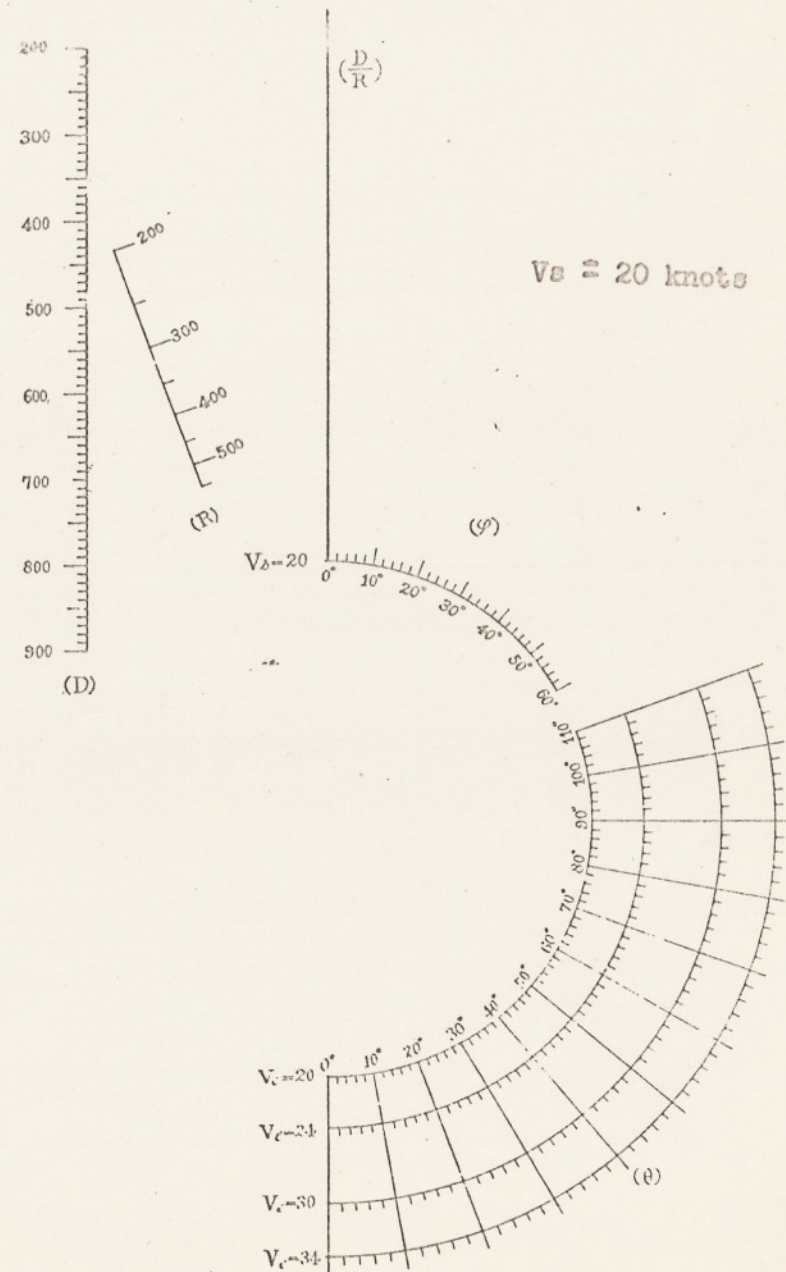
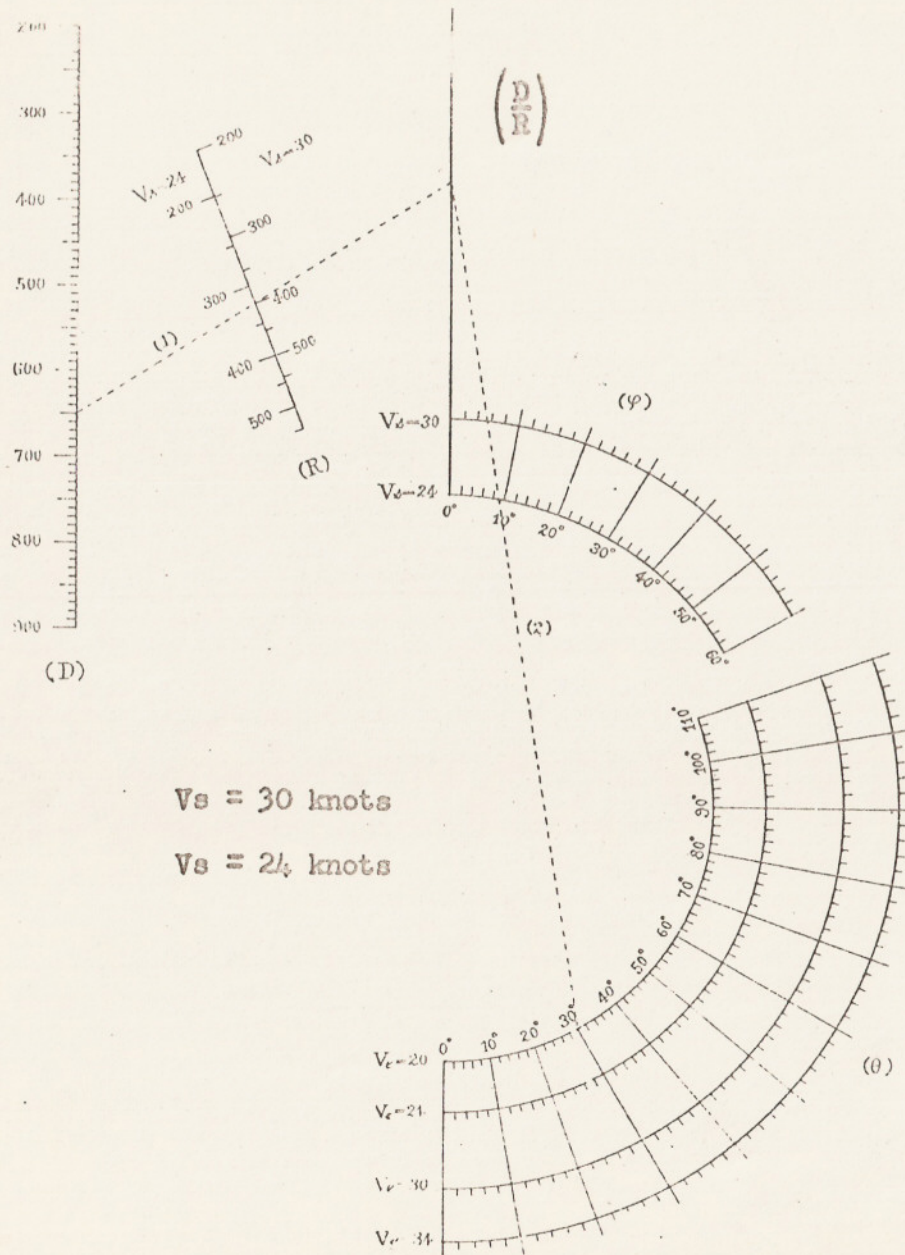
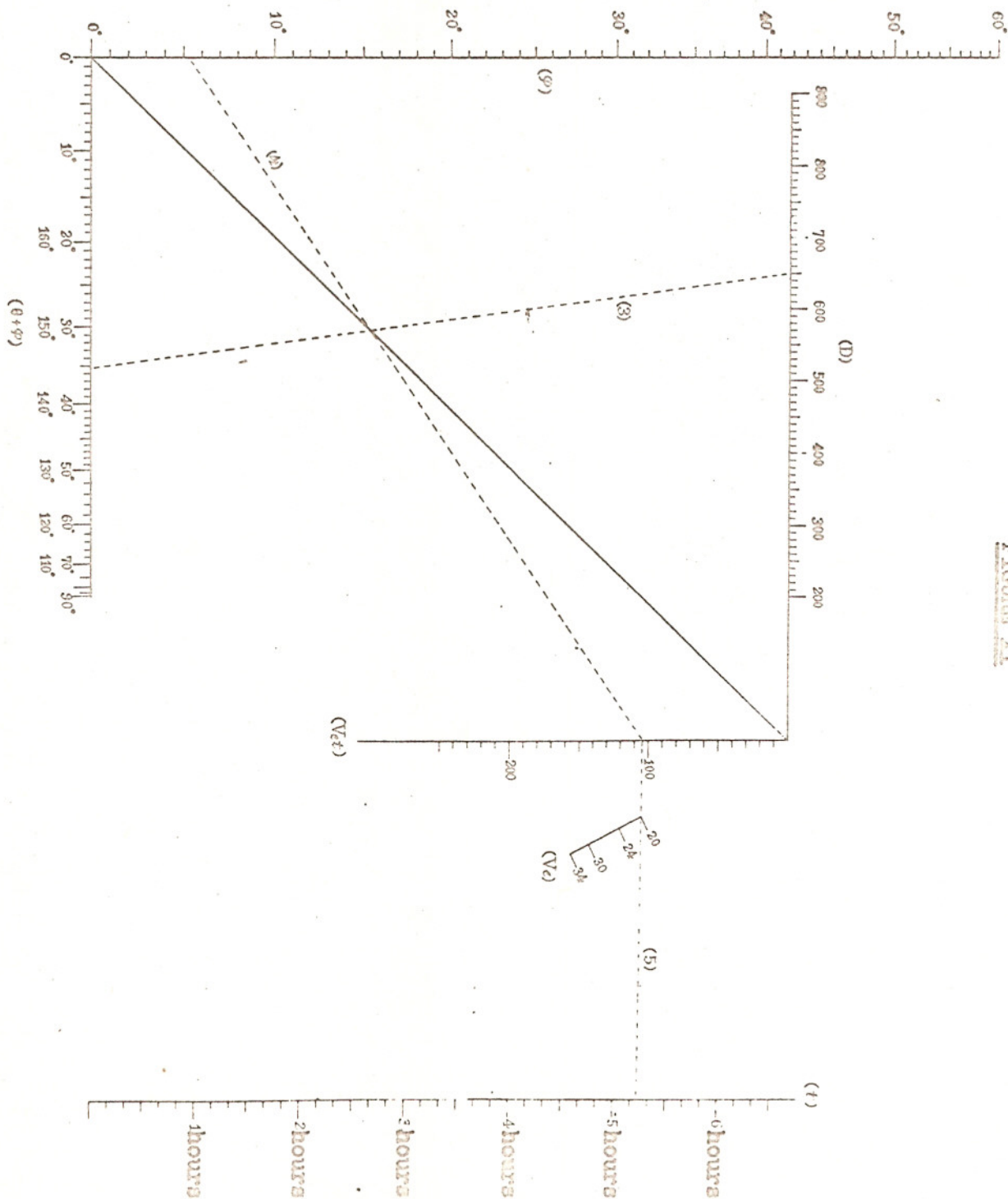


FIGURE X

FIGURE XI



Sub Searches:

Reconnaissance and observation of strategic places by submarines dispatched in advance;

Sweeping and search of the seas in the area of a projected operation;

Sweeping in advance of a fleet.

Search and Patrol of Base Air Forces:

A plan for the daily patrols of a Base Air Force which uses radar, vs a US Fleet planning an air attack against TOKYO. (See Figure XII).

Fly patrol planes continuously from Base A to Base B in column patrol, with an interval set so that the enemy cannot slip through the patrol line.

The time of the plane's departure, T , will be given as follows:

$$T \text{ equals } \frac{2d}{V_e}$$

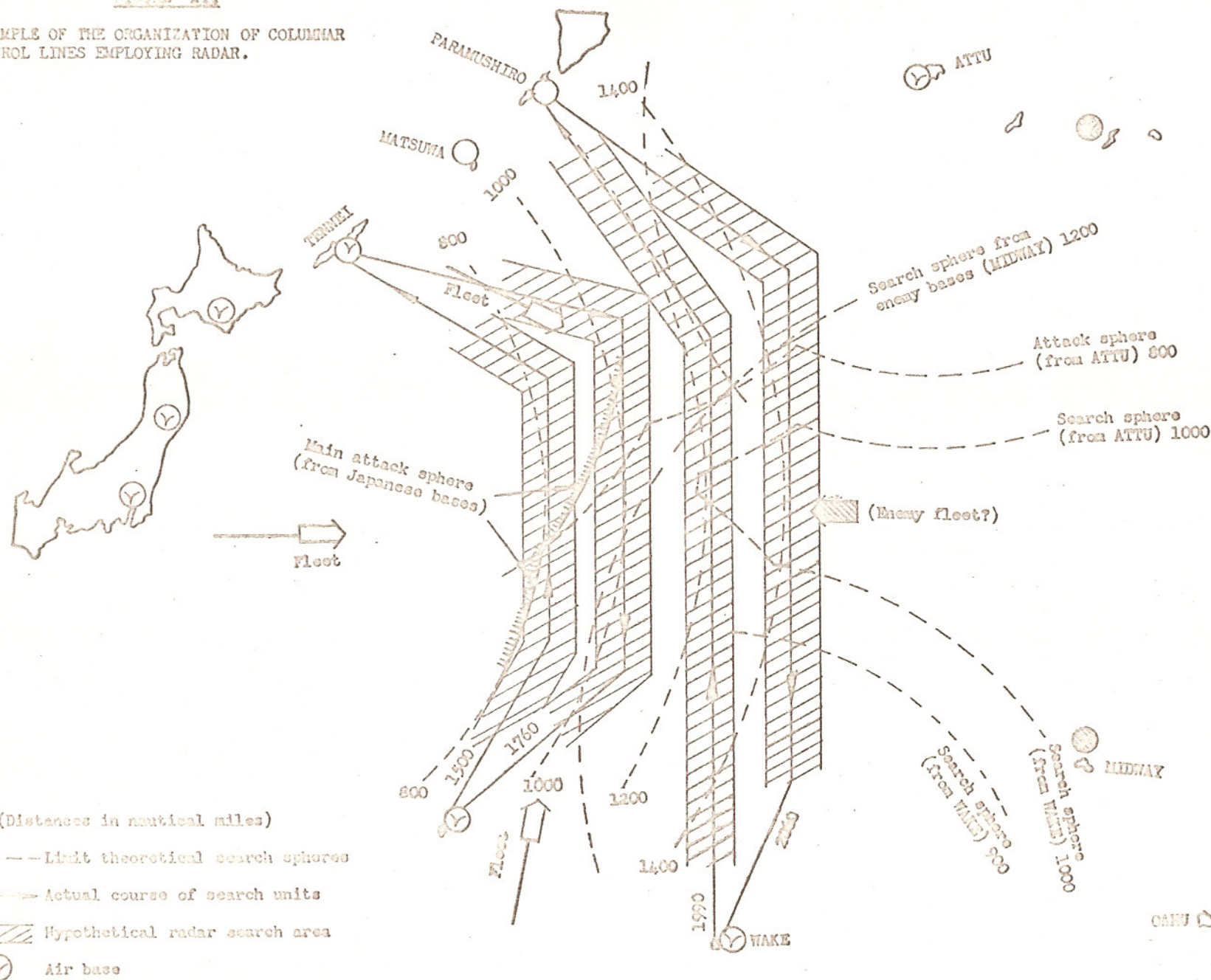
When V_e equals the speed of the enemy
 d equals the radar performance

For an example of patrol lines, see the following tabulation, and Figure XIII.

Patrol Sphere (Center, TOKYO)	1400 nautical miles	1200 nautical miles	1000 nautical miles	800 nautical miles
Bases Employed	PARAMUSHIRO-WAKE	WAKE-PARAMUSHIRO	TENNEI-MARCUS	MARCUS-TENNEI
Distance (Nautical miles)	2060	1990	1760	1560
Flight time At cruising speed of about 150 knots	14.0	13.0	12.0	10.5
Estimated Enemy Speed	Approximately 30 knots			
Radar performance	Approximately 50 nautical miles			
Interval of Departures	Three hours			
Planes Used per Day	Eight planes per /patrol/ line			
Planes Simul- taneously in Air	4-5	4	3-4	3

FIGURE XII

EXAMPLE OF THE ORGANIZATION OF COLUMNAR
PATROL LINES EMPLOYING RADAR.



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Remarks: The interval of departure and the number of patrol planes used depends solely on the speed of the enemy and the power of your radar. When the enemy's speed can be estimated at 20 knots it is possible to make the interval of departure five hours. To reduce the number of planes employed you must increase the power of your radar. These patrols must be continuous. However, some interruptions are possible, depending on the situation. There will be little change in the number of planes used.

Example of vanguard search and sweep employing ship-borne reconnaissance planes (see following text and Figure XIII):

Speed of our search planes (V_f) = 200 knots.

Operational radius of enemy attack planes (D_b) = 500 nautical miles.

Speed of our fleet (V_s) = 14 knots.

Estimated speed of enemy fleet (V_e) = 24 knots.

In attempting to get in the initial attack under the above estimates, the requisite search distance (D) at the beginning of search operations, will be:

$$D = \frac{V_f \text{ plus } V_e}{V_f \text{ minus } V_s} \times D_b = \frac{200 \text{ plus } 24}{200 \text{ minus } 14} \times 500 = 600$$

Each of the six cruisers in your vanguard carries 8 recce planes. Estimated their cruising speed at 200 knots, and their operational radius at 500 miles, the vanguard will have a sweep as shown in Figure XIII.

In this case:

The first search planes will be launched two hours before sunrise;

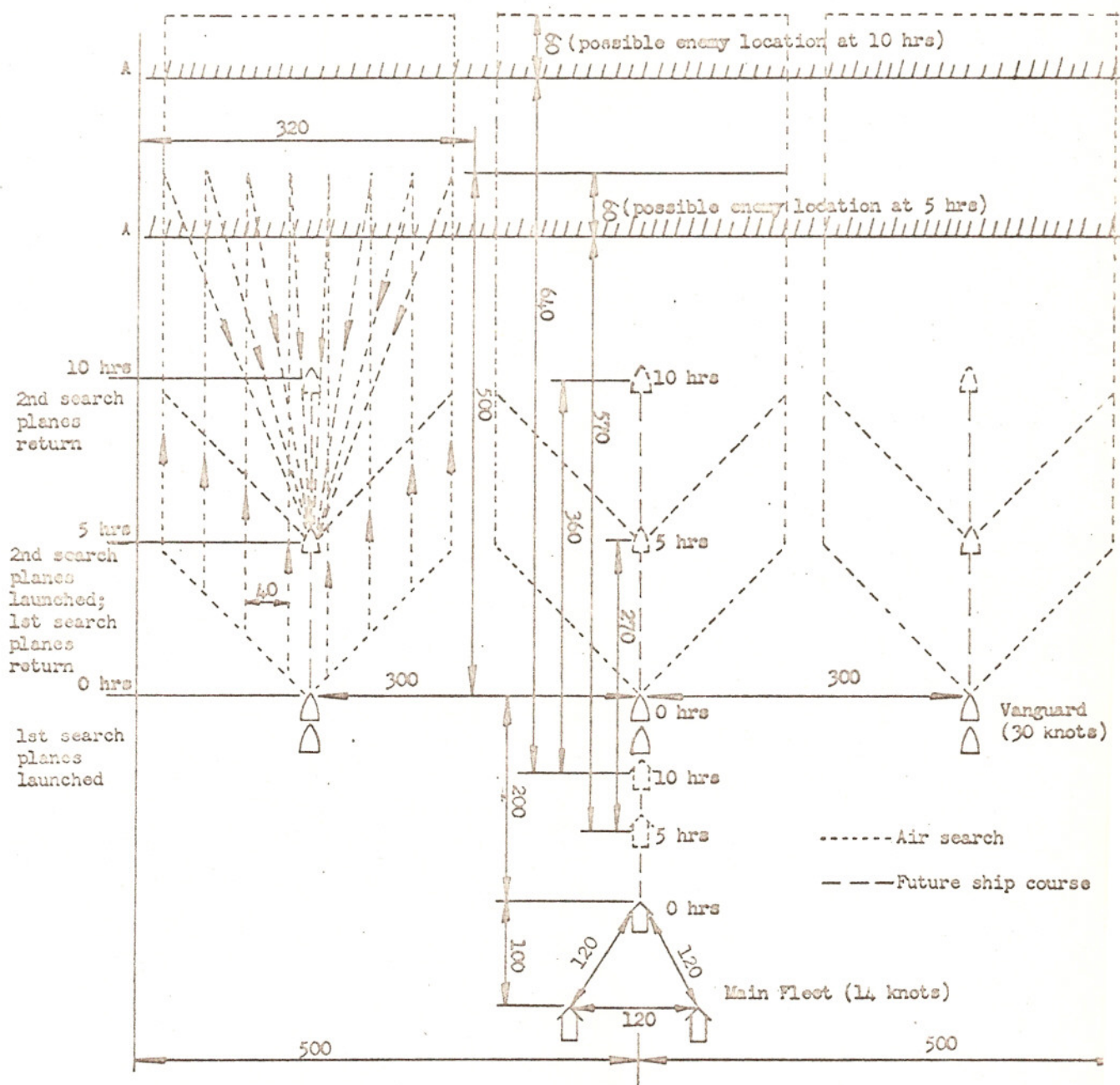
Flank searches and second stage advance searches will be conducted by recce planes from the unit directly under the TF Commander;

If the second search does not make contact with the enemy, withdraw at nightfall and take a suitable distance until the next morning.

Figure XIII is an example of a daylight search, visibility 20 nautical miles, radar not used.

FIGURE XIII

EXAMPLE OF VANGUARD SEARCH AND SWEEP EMPLOYING
SHIP-BORNE RECONNAISSANCE SEAPLANES



(Note: Distances are in nautical miles. Meaning of lines AA is not clear; they may indicate estimated range of "enemy" ship-borne radar.)

It is self-evident that in order to catch the enemy unaware and win a decisive battle through skilful tactics, we must know the enemy situation at all times. This is, in turn, done by continuous tracking. Yet since the beginning of the war there have been few instances when we have been able to track an enemy striking force efficiently. It has been like a game of tag, and we have no taste for such constant insecurity. The situation is caused primarily by insufficient research in the methods of tracking, and by unsatisfactory tools. There is a pressing need for research in concealed tracking and reconnaissance methods and for development of an adequate tracking plane.

Should you contact the enemy and find you have not time to attack the same day, track him with radar, and get in the initial attack the following morning. Situations such as that at CORAL SEA, when we lost the enemy until the following morning, should be minimized.

You will not always obtain the desired results in gathering intelligence in spite of your utmost effort. But as aerial victory or defeat is decided in only a few moments, all officers should gather and digest the smallest bits of information, attempt to intercept communications, evaluate enemy power, and take advantage of every opportunity offered.

Therefore, each fleet will maintain a permanent intelligence unit and a permanent RI unit, and continuous training will be strictly enforced.

But, when TF Commanders wait to act until they have judged the enemy situation from all such sources, it often results in following the enemy's lead. So do not wait vainly for the results of reconnaissance. Without hesitation resolutely take the lead in action pursuant to your mission. Bear in mind that in the history of war there have been many times when a plan has been forced on an enemy, once he has been engaged, because the attacking force retained the initiative. In the Battle of the STEWART ISLANDS, for example, there was a dispatch from a recce seaplane from the CA CHIKUMA reading, "Spotted large enemy force. Being pursued by enemy fighters." (Subsequently communications were broken.) On the basis of this dispatch alone we launched an attack unit. This is a good example of seizing the initiative.

Security:

Security regarding our own activities is as important in striking force warfare as intelligence regarding the enemy's position. Do not content yourself with merely withholding data from the enemy. Harass his recce planes, submarines, etc. Employ to the utmost strategic and tactical diversion and demonstration to deceive and trap the enemy. Spread wild rumors. By concealing your true aims, baffle the enemy.

Napoleon, in a period when devices for reconnaissance and communication were imperfect, worked hard to conceal his plans by spreading false rumors through the press which he controlled. Hindenburg, at the battle of TANNENBERG, deceived Rennenkampf when he concealed the shift of the 1st Reserve Corps and the 17th Corps to the south. He delayed the movement as long as possible, and then moved a force toward Rennenkampf in the daytime, only to return it that night. The whole appeared as a shift to the north. All the famous generals of history have endeavored

to conceal their plans and movements, and have consequently effected surprise attacks.

Give full play to the striking power of your striking force in carrying out a mission. In planning an operation do not require superfluous movements of the various units. Though a number of changes occur in the situation, do not restrict your own mobility by taking the defensive, or because of an excess of time hesitate and loiter unnecessarily in an area in which enemy submarines and reconnaissance planes are active.

Therefore, as circumstances dictate, when attacking a strategic area with a striking force, maintain a screen on the flanks of the attack force, and hold in reserve another force capable of coping with an enemy fleet, should it appear.

Since radio transmission will more than likely betray your plans and movements set up in advance detailed operational plans and doctrine, and so guarantee security of the location of your principal operations. Maintain strict radio discipline by use of plane-ground communication units and suitable communications control.

The application of the above methods in striking force combat increases the complexity of warfare, and command communications become increasingly difficult. Yet the fate of the whole force is decided by the quality of their communications. Therefore we are pushing research in secret communications, directional communications, and high speed communications, and we are cognizant of the necessity of developing new fields in fleet communications.

At TANNENBERG, the Russian Army neglected to encode its military orders. As a result, the German Army learned of the isolation of the Niemen Army and judged that it could gain a victory as desired against the Narew Army. In the same battle, the German Army was fully equipped with telephone, telegraph, and radio equipment, and each corps and division had exchanged liaison officers. Hence coverage of communications was extremely thorough. In contrast, the Russian Army often neglected its communications at crucial moments, and so the news of the plight of the Narew Army was not transmitted to either the Niemen or the Area Army, and the chance to reinforce it was lost. The Narew Army was enveloped and destroyed.

Research on secret communications, directional communications, and high speed communications:

Research on these types of ship-borne transmitting devices has been carried on for years. The chief problem remaining unsolved is that of their weight and volume. It is, as yet, impossible to equip every ship completely with such communications devices in addition to the complete military and other equipment necessary to the ship's function. Yet recent developments in warfare have made such equipment indispensable. As a temporary solution, we could install this sort of communications gear as a main item of equipment on ships of approximately destroyer size. These ships would be entrusted with the communications necessary for accompanying flagships of striking forces. In this way we would achieve our objective in communication and prevent (TN: enemy) detection of radio transmission. This would be an important contribution to security.

Ships to be furnished with this equipment will be chosen with the following requirements in mind: (1) feasibility of installation and (2) whether or not the ship has sufficient maneuverability and speed to accompany carriers. Ships thus selected will also be considered AA ships and equipped with a maximum of AA firepower. They will be available for use as temporary flagships in case flagships are put out of action.

The independent authority of officers and the cooperation of units:

Officers must often act on their own initiative in striking force warfare, for the movements of each unit are complex and ingenious, and the chance of victory is momentary. Probably even the highest commanders are unable to estimate complex operations for all units and to direct them point by point, and opportunities are likely to be missed when officers simply wait for instructions before taking action. The TF Commander will brief his subordinates as to the plan which must be carried out, relying on their judgment for the details of execution. Thus each officer will have an idea of the TF Commander's plan, and will act independently to carry it out, making courageous or prudent decisions as called for, and losing no favorable opportunities. Therefore a force which has contacted the enemy shall not neglect the necessary reports at the proper time, thus establishing a foundation for cooperation among the various units.

Pursuit:

Since the beginning of the Greater East Asia War there have been no examples of successful pursuits in striking force battles. There have been a series of inconclusive envelopments on one flank or frontal attacks, with no examples of complete envelopment wherein the enemy's line of retreat was cut off. The loss of planes has been great and therefore the reserve power for pursuit lacking. Thus it is important to effect complete envelopment, harass the enemy's retreat, and seize the most favorable moment for pursuit. The outcome of striking force battles is usually determined at the start of the battle; and at the critical moment the two fleets are often widely separated. The best opportunity for an attack is thus often lost. All officers should take an overall view of the situation and seize the best opportunity to launch pursuit. Force commanders who have contacted the enemy will endeavor to rush in and overwhelm him, unfettered by higher orders, and regardless of the type of weapon. The rear force commander will dispose his forces for pursuit at the proper moment. Bring carrier replacement base units into play, and accelerate replenishment of power.

The relationship between striking forces and base air forces:

One of the weaknesses of today's carriers is their unsatisfactory defense. Pitting a carrier against land-based aircraft is like fighting a fortress with a surface craft. This is even more true when the land air bases are so located that they can cooperate with each other. Examples of striking forces alone destroying air bases exist in the HAWAIIAN and INDIAN OCEAN theatres. But these must be termed highly unique examples, caused either by the fact that the enemy was surprised and eliminated at one blow, or by the weakness of his base air force and his lack of fighting spirit. It is a great error to be dazzled by the magnificent results

attained by carriers in sea battles, and to disregard their essential defects.

The quantity and maneuverability of base air power certainly do not fulfill the requirements imposed by an operation. Again, the base establishment hampers rapid movement and concentration. It is important to make up for these weaknesses by exploiting to the full the characteristic maneuverability of the striking force, using it to supplement the deficiencies of base air power, and driving for a co-operating, dominant organization. Bear in mind that close cooperation and liaison must exist in operations. Fundamentally, we should recognize these defects in carriers when striking forces are operating outside the range of land based aircraft. We must plan to make surprise attacks on the enemy, utilizing all possible methods, compensating for weakness in search performance by using submarines and surface craft, etc.

Compensation for carrier deficiencies consists only in negatively concealing your whereabouts by means of dispersal, or by making a surprise attack on the enemy by the use of carefully hidden plans. Strict radio discipline and unbridled carrier movement are essential to application of these points. Consequently it usually results in restricting the range of carrier planes.

Today's carrier planes have a range of about five hundred nautical miles. Comparing this to the spectacular capabilities of land planes, the tremendous differences between the two are apparent. The short range of carrier planes limits observation, and is a vital defect in carrier force operations. It is necessary to develop counter-measures to increase the range of reconnaissance. It is advisable that carriers rely on the reconnaissance of base air forces. Operating with this assistance is advantageous. The chief assignment of land based planes will be the attack of enemy surface forces.



CHAPTER 5 - CONCLUSIONS

In today's warfare, the importance of deception and of new developments in weapons and tactics is obvious. Yet we do not abandon ourselves to extravagant plans which ignore the theories of war, entrusting victory to chance.

We feel it a dangerous doctrine to adopt a new policy which has relinquished all obligation to old sea warfare. In discussing the methods of striking force Warfare we have merely detailed the military principles with which all famous generals have won brilliant victories in land warfare. We have done no more than pose the question, "To what extent should these methods be applied in sea battles?" Since the opening of the war, the enemy, unable to check his warship losses, has adopted methods which resemble the new warfare, taking carriers as his capital ships. But though we examine his disposition of power, we have not yet abandoned all conventions.

We have examined the fundamentals of conclusive battles, investigated the psychology of the battlefield; we are convinced that courageous and thorough application of the results leads the way to certain victory. Of course, the need for research relating to methods of communication, liaison, tracting, and reconnaissance is great. But the truly great necessity is planning for a speedy decision by utilizing our whole power, unifying the military concepts of our officers, grasping the new methods of warfare, and briefing each force on its movements and on co-operative action.

BATTLE CHARTS

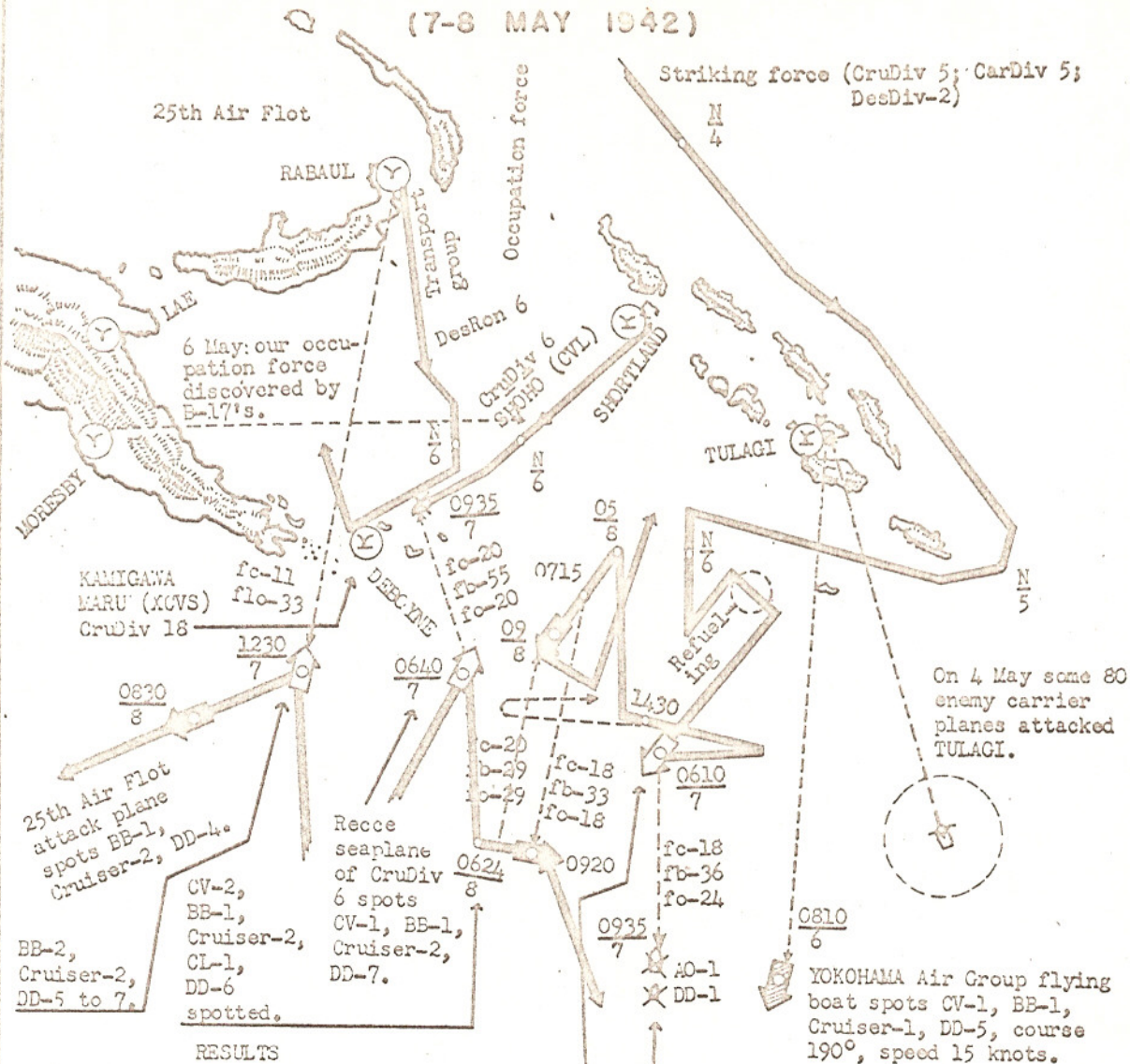
- Chart 1 Battle of CORAL SEA, 7-8 May 1942 .
- Chart 2 Battle of MIDWAY, 5 June 1942
- Chart 3 Battle of the EASTERN SOLOMONS (STEWART Islands), 24 August 1942
- Chart 4 Battle of SANTA CRUZ, 26 October 1942

Errata: In the charts which follow, "flo" has been incorrectly translated as "reconnaissance seaplane". It should be translated as "land-based bomber".

(Enclosure to Weekly Intelligence Addendum
on Japanese Striking Force Tactics)

BATTLE OF THE CORAL SEA

(7-8 MAY 1942)



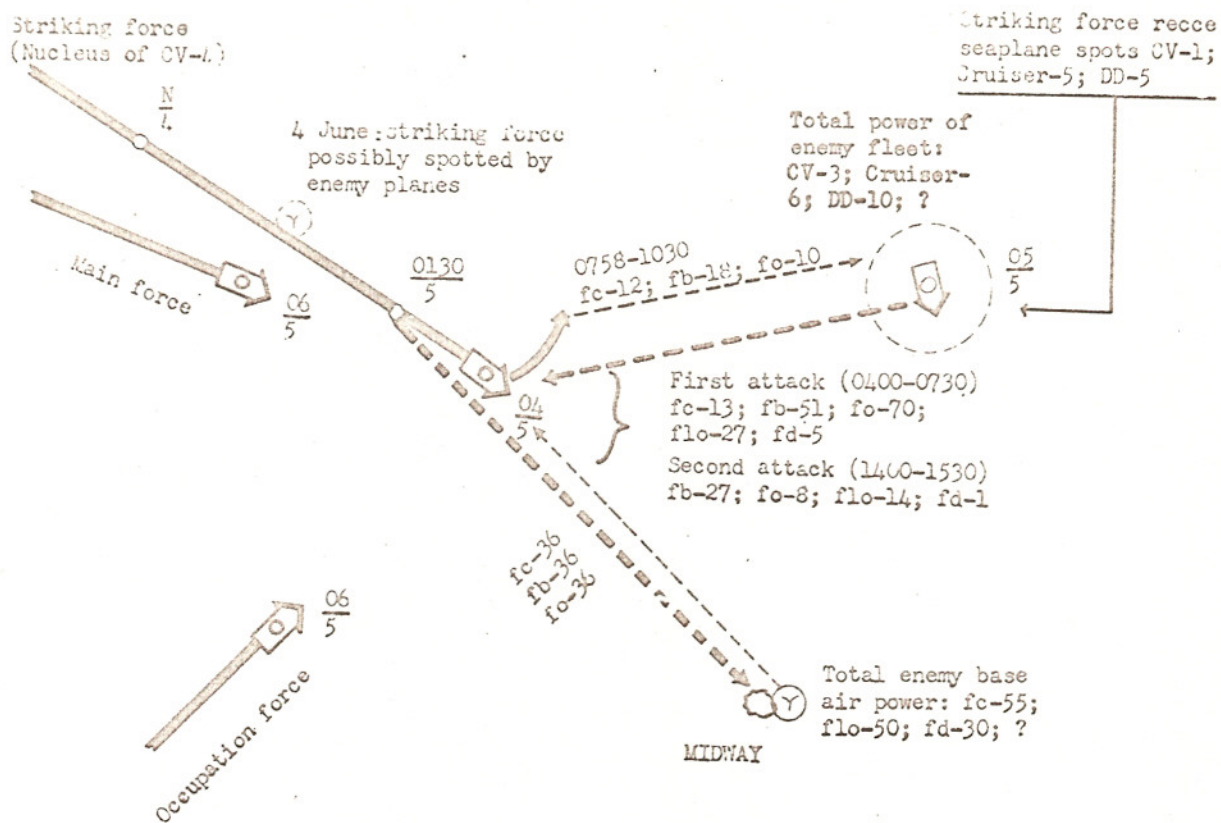
RESULTS

	Enemy Losses	Our Losses
Airplanes	148 shot down	12 forced down; 36 blew up
CV	1 heavily damaged; 1 sunk	1 moderately damaged; 1 sunk
BB	2 heavily damaged; 1 sunk	
Cruisers	1 moderately damaged; 1 sunk?	
DD	1 sunk	
Tankers	1 sunk?	

LEGEND	
fb	Dive bomber
fc	Fighter plane
fd	Flying boat
flo	Rece seaplane
fo	Attack plane

BATTLE OF MIDWAY

5 JUNE 1942



RESULTS

Base Installations	Bombed and left in flames
Cruisers	One heavily damaged
CV	One heavily damaged One sunk
Airplanes	190 shot down

LEGEND

fb	Dive bomber
fc	Fighter plane
fd	Flying boat
f1o	Recce seaplane
fo	Attack plane

24 AUGUST 1942

	Enemy Losses	Our Losses
CV	2 heavily damaged	1 dis- abled
Air- planes	28 shot down	12 forced down; 26 blew up

fb	Dive bomber
fc	Fighter plane
flo	Recce seaplane
fo	Attack plane

BATTLE OF THE SOUTH PACIFIC

(TN: BATTLE OF SANTA CRUZ)

26 OCTOBER 1942

RESULTS

	Enemy Losses	Our Losses
DD	3 heavily damaged; 1 sunk	
Cruisers	3 - 4 heavily damaged; 2 sunk	1 moderately damaged
BB	1 sunk	
CV	3 sunk	2 moderately damaged
Air-planes	67 shot down	23 forced down; 59 blew up

