

CHAPTER 14

RECOGNITION OF SHIPS AND PLANES

INTRODUCTION

The Importance of Recognition

Realization of the importance of visual recognition and the discovery of effective recognition training techniques were important outgrowths of World War II. Many tragic and costly errors in the early days of the war led to exploration of new training methods and to increased emphasis on recognition as a vital operational skill.

Fleet Admiral Chester W. Nimitz, Commander-in-Chief, U.S. Pacific Fleet and Pacific Ocean Areas, at the end of the war described the importance of recognition in these words: "If there is one lesson we have learned from the Pacific war, it is that constant training in visual recognition and identification for all topside battle-station personnel on board ship and for all aircraft personnel is of vital and urgent importance."

High-ranking Army officers were in complete accord with the Navy about the difficult problems involved in proper recognition and the need of intensive training. H. H. Arnold, General of the Army, Commanding General, Army Air Forces, stated his point of view in the following words: "An airman, beyond having to make the usual decisions of how, when, and where to attack, is also frequently faced with another problem: whom to attack. Aircraft and ship types, our own as well as those of the enemy, are rapidly outmoded, and as rapidly replaced with new developments. Instantaneous recognition of aircraft, which move at constantly increasing speeds, is a combat advantage of first importance. No one should be assigned to a theater of operations without thorough and precise training in the identifica-

tion of all friendly and opposing ships and airplanes."

These and many other such statements grew out of countless combat situations in which correct visual identification of aircraft and ships contributed to the successful completion of the assigned mission. Too frequently, however, there were situations in which tragic blunders resulted from incorrect identification.

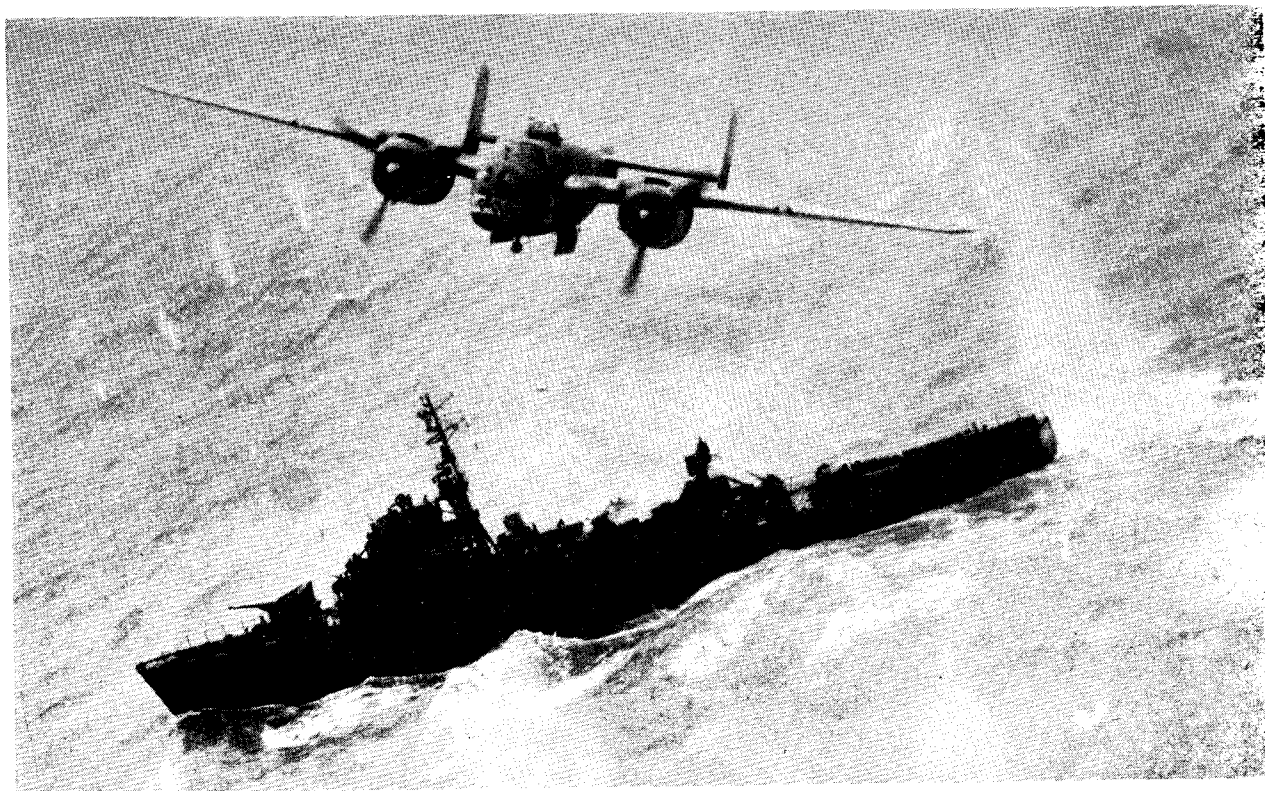
Costly Errors

Prior to our entry into World War II the British had already had occasion to appreciate the importance of recognition. Failure to differentiate between Royal Air Force and Nazi planes over England had almost cost them the Battle of Britain.

And not all mistakes in recognition were made by the Allies. Here is one of the stories the Japanese told about the Battle of the Coral Sea. In relating an incident that had important repercussions, Commander Sekino of the Japanese Navy said:

On 7 May, the day when the *Shoho* came under American attack, the Japanese scout planes made wrong identification and directed the attack of the *Shokaku* and *Zuikaku* planes to American tankers instead of to American carriers, thereby seriously upsetting the entire succeeding battle tactics of the Japanese task force. After dropping their bombs on the American tankers, the *Zuikaku* and *Shoho* planes were returning to their carriers when they saw the American carrier force. Unfortunately, they did not have any bombs for attack. Some planes mistook the American carriers and attempted to land on board.

As a result of the damage to these two important carriers during this battle, the *Shokaku*



B-25 MITCHELL IN WORLD WAR II
A shark-faced B-25 Mitchell closes in for the kill on a Japanese frigate.

was prevented from being used in the Battle of Midway and delayed operations for the occupation of Port Moresby. Thus a recognition mistake by the Japanese led indirectly to their defeat in two important phases of their war against the United States.

As the complexity and fury of war increased, informed observers soon realized that even the sure recognition of friend and foe was not enough. If planes were approaching, a man had to know, and to know fast, not only whether they were hostile, but also what were their wing spans, approximate speeds, and probable armaments, and he had to make a reasonable guess as to their future actions. Obviously, a gunner faced with a large flying boat and a gunner faced with a fast fighter have two entirely different problems.

And a corollary also held. It was indeed tragic if an officer or an enlisted man permitted the plane that he was mistakenly sure was

friendly to fly through and bomb American hangars, planes, and ships—and American men.

World War II established recognition as a vital technique of modern warfare. It was proved by too many tragedies where recognition was careless or neglected and by many unreported incidents where successful recognition fell into the pattern of victory.

For a short time after World War II recognition training was eclipsed. It promptly received high priority, however, at the outbreak of hostilities in Korea. Unfortunately the training task could not be accomplished quickly enough to forestall further costly errors. Sea-fires were shot down instead of YAK-9's by UN planes. F-86's were confused with MIG-15's, and F9F's were fired upon by our ships.

These errors point clearly to the importance of a continuous, dynamic recognition training program as a vital factor in combat readiness.

TRAINING TECHNIQUES

History of Recognition Training

Ability to recognize objects and people, as well as realization of the importance of this ability, are as old as man himself. Primitive man had to learn to distinguish between poisonous and nonpoisonous plants in order to find nourishment; self-preservation forced the development of skill in recognition of hostile animals or enemy tribesmen. As man has developed more and more complex vehicles and weapons, he has had to sharpen skill in differentiation. Apparently two factors, interest and self-preservation, are the most effective recognition instructors. Without one or the other, the most advanced training techniques may be futile.

In 1918 some of the older chief petty officers of the Navy with a background of experience at sea prided themselves on being able to recognize ships at a distance; but these men were exceptions and were self-trained. Recognition was a product of World War II. Not only was there no recognition training in the U. S. Navy on 7 December 1941, but also were there no recognition instructors. Indeed, the Navy had so few airplane models to use in teaching that it made a nationwide appeal to high-school boys to lend theirs and to develop others. And the Navy itself went to work initiating a program of recognition material consisting of manuals on aircraft, flash cards, and a few animated movies.

In May 1942 a Recognition School was established by the Navy at Ohio State University, under the direction of Professor Samuel Renshaw, who had developed a method of identification through total form perception. The Bureau of Naval Personnel took over the administration of the Recognition School on 1 January 1943, and plans called for the training of 1,200 officers at the rate of 175 a month. Graduates were ultimately placed in all appropriate naval activities. In all, some 800 officers were graduated from the Recognition School by the time it closed. At the end of World War II almost all of the trained recognition instructors

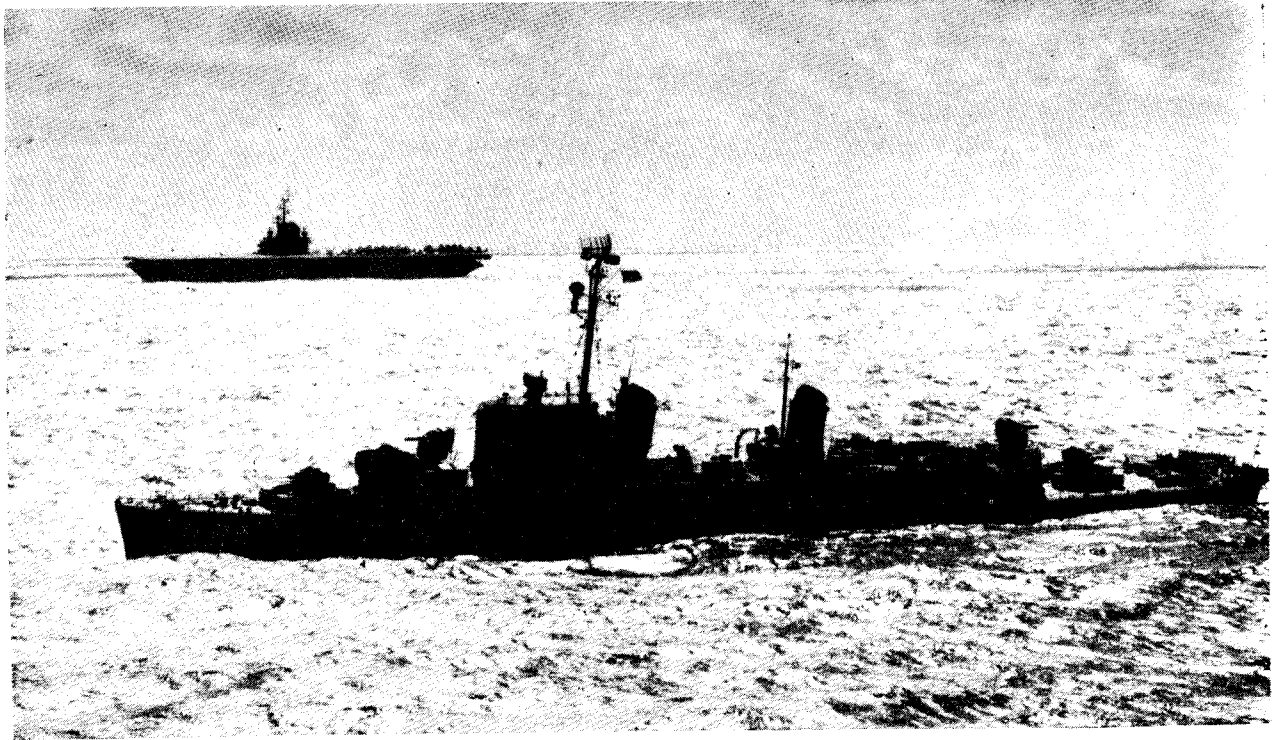
returned to civilian life, and no facilities remained for training new instructors. Consequently, recognition training suffered a temporary lapse, but was revived to satisfy urgent fleet requirements after July 1950.

Current Training

Shipboard instructors are now being trained at two Recognition Instructor Schools—one at Norfolk, the other at San Diego. Instruction of aviation personnel is an intelligence responsibility and is currently being conducted by the squadron AI officer, who has received instruction in recognition and training techniques as a part of his Air Intelligence Course. Training aids in the form of slides, manuals, posters, and models are provided by BuPers and DCNO (Air) to supplement fleet and shore-based recognition training.

The Navy system of recognition instruction emphasizes total form perception. But analysis of individual features is the basis of recognition of the total form. Therefore, in presenting new aircraft to a recognition class the instructor points out on silhouettes and on close-up photographs the recognition characteristics that add up to the distinctive appearance of the plane as a whole.

The Renshaw system, originated at Ohio State and adopted as the official Navy system, is based on constant drill with split-second exposures. Several new planes or ships are introduced at each session. Silhouettes and close-up views are shown, and recognition characteristics are pointed out. Then a review of these items, plus others learned in previous sessions, is conducted with slides and a flash projector. The short exposure eliminates the possibility of part-by-part analysis and emphasizes familiarity with the total form of the ship or plane. Thus, by careful presentation and constant drill the items come to assume complete familiarity in any attitude. The instructor uses posters, displays, models, and motion pictures to implement the training.



CARRIER AND DESTROYER

Features that aid in recognition are easily spotted when ships are silhouetted against the horizon.

Self-study is encouraged, and study cards, manuals, and reference material are available for the students' use. Motion pictures and field

observation are also used as a means of developing the students' ability to recognize instantly an aircraft in flight.

AIRCRAFT RECOGNITION

General Features

It should be emphasized that national characteristics are no longer a reliable means of recognition. There are occasional clues to nationality in details of construction or configuration, but the design requirements for high-speed jet flight dictate the appearance of these modern aircraft. This fact is especially true in the case of Soviet Air Force planes. Borrowing of combined United States-British designs and employment of German and Italian designers have given Soviet planes what might be described as an international appearance.

Features to be studied in modern jets include the mounting of engines and the placing of intakes and exhausts. Prop planes may be distinguished by the type, number, and posi-

tion of engines. Radial engine cowlings differ widely from in-line engine mountings. Wings may be studied to determine the degree of taper, the shape of the tips, their position in relation to the fuselage, and the presence of certain fixed features. The placing and shape of cockpits, bombardier compartments, turrets, and gun positions provide further clues. Tail sections vary greatly in shape, position, and degree of taper or sweepback. All such clues, however, should be studied in relation to the over-all appearance of the aircraft as seen at extreme ranges and in all flight altitudes. Only in this way will the appearance of a plane create a lasting impression and assure instantaneous recognition.

Night recognition of aircraft presents new