PM

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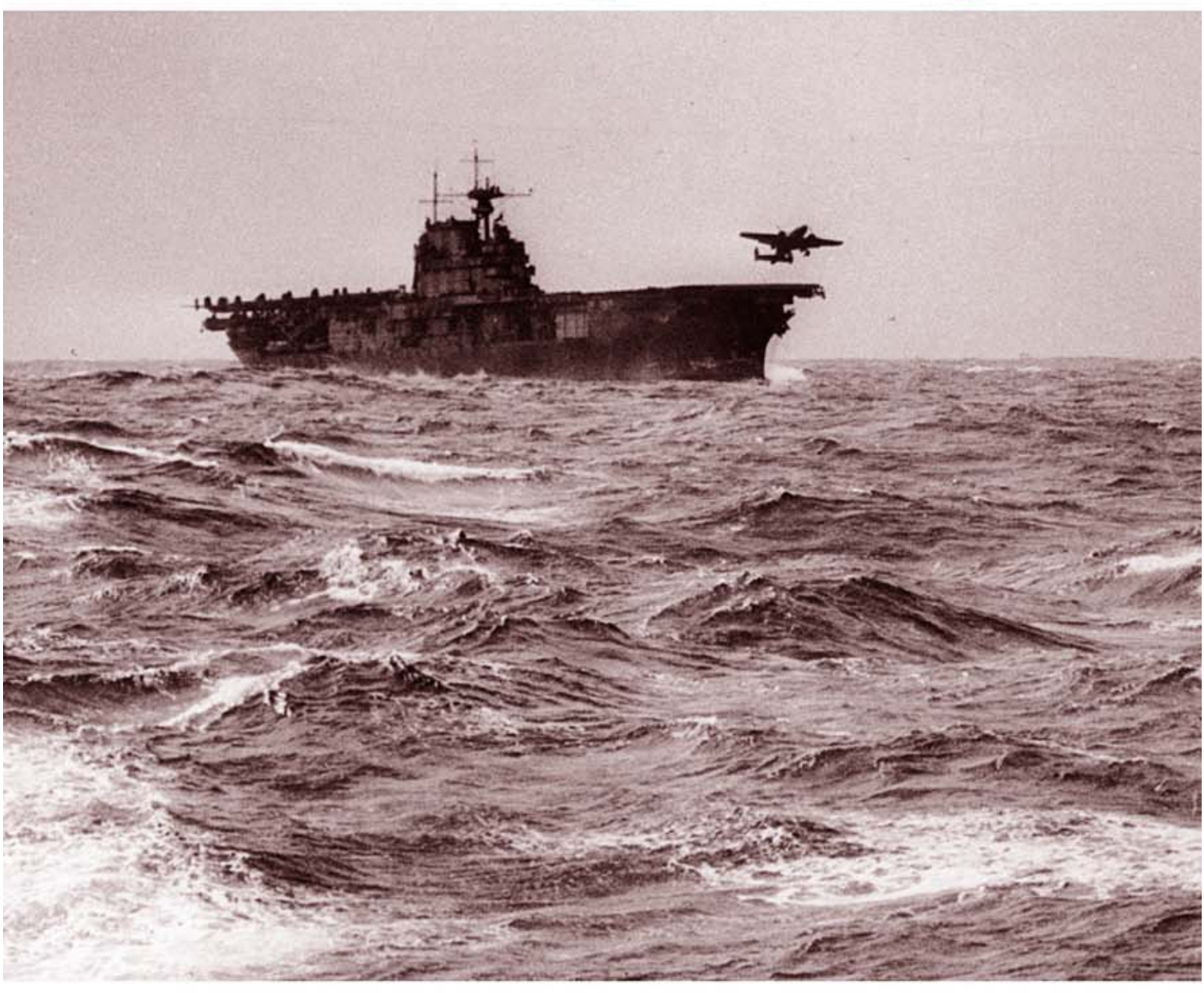
NEW QUEEN OF THE SEAS



Aircraft carrier has a glass jaw but but recent naval battles indicate she'll be the champ deep-water fighter for at least two years. Here's how a carrier is built and how she's operated.

IN THE SEVEN MONTHS since Pearl Harbor the aircraft carrier, for most practical purposes, has replaced the battleship as the true *capital ship* of modern naval warfare.

The carrier's rise to power reached a crushing climax in the Battles of the Coral Sea and of Midway—the two most decisive naval combats of the war thus far. Opposing fleets only struck at each other with bomber and torpedo planes and never fired a shot except in self-defense against aircraft.

As a result, the U. S. Navy has halted work on a class of 60,000-ton battleships that was in the advanced blueprint stage, and its new eight-and-one-half-billion-dollar construction program provides for 20 to 30 carriers but not for a single battleship.

Carriers appear certain to dominate any major deep-water fighting for at least the next two years. Naval war has become an elaborate matching of task forces, and in this game carriers are trumps. Battleships may still have a role, but it can be played only under protection of air power.

How long the carrier may hold this newly-won supremacy is another matter. In a sense the *covered wagon* (a U. S. Navy pet name for 20 years) is like a pugilist with terrific wallop, but a glass jaw. The carrier has been proved sadly vulnerable to counter-blows from the air. At present the limited range of heavy land-based bombers gives the carrier relative security as long as it can keep well out to sea. But the kind of long-range super-planes that should be coming into service within five years might cancel out that security.

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Such ardent advocates of military air power as Major Alexander P. de Seversky consider it a waste to build such intricate, fragile vessels to tote short-range planes around, instead of concentrating world-ranging bombers that could hunt warships anywhere and sink them like coffee cans. Carrier men shrug and point out: (1) This is 1942, not 1947; (2) We have carriers now; (3) You can't win this war with the next war's equipment.

Here's how the powers stood in carrier strength in 1939:

Country	Built	Building
U. S. A.	7	11
Japan	7	2
Britain	6	6
France	1	2
Germany	0	2
Italy	0	0

The table needs some explanation, however. Only one of Britain's carriers in service was a new, first-class ship, but four of those under construction were well along. France blew up the two she was building to keep them out of German hands. Germany's two should have been completed long ago, but they have never been reported. The seven U. S. ships were all first-class, and regarded as the world's best carrier fleet. Japan certainly completed two carriers in 1941, and events since Dec. 7 make it pretty certain it had another five or six, built secretly.

Only one carrier has been sunk by battleships in this war; that was during the Norway invasion in June, 1940, when the German Scharnhorst and Gneisenau caught HMS Glorious with her planes down. But British carrier planes torpedoed and beached three Italian battleships at Taranto.

Carriers began to punch with full force when Japan and the U. S. A.—the two nations that had specialized in that type of vessel—went to war. Jap planes sank the battleship Arizona and capsized the Oklahoma at Pearl Harbor. Then torpedo planes popped off Britain's battle cruiser Repulse and the new battleship Prince of Wales. The U. S. A. has lost the Lexington, but has sunk five Jap carriers and damaged at least one more. That was heavy punishment, but there are more carriers in fighting trim on both sides, and they will be heard from again.

A SNOWPLOW is part of a carrier's equipment for clearing the deck on Winter patrol duty. Blizzards, fog and stormy weather hamper flying operations, and carrier must depend on speed and its destroyer escort for protection.

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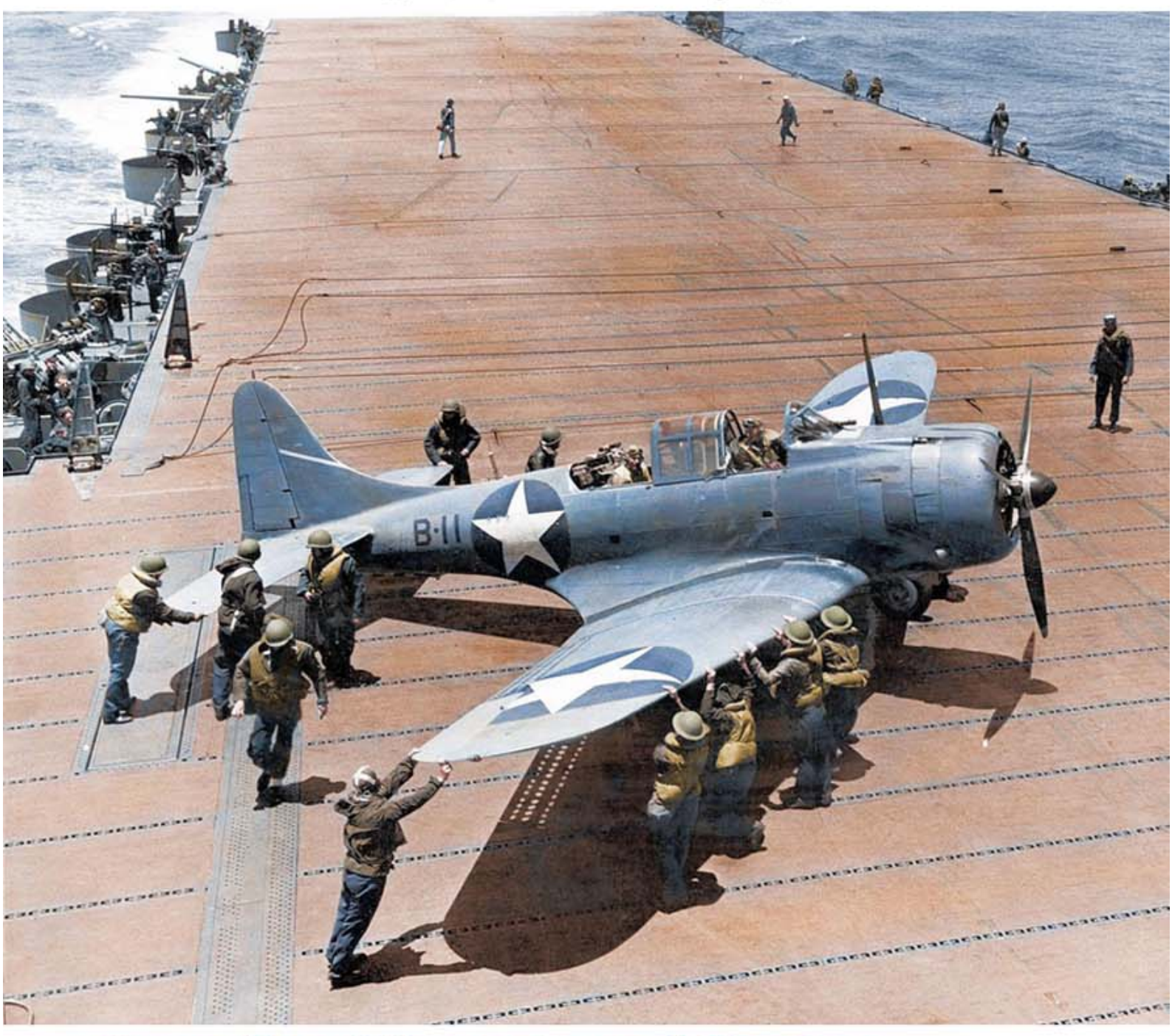
Typical wartime day for pilots begins long before dawn.

THE AIRCRAFT CARRIER has two main functions, reconnaissance and attack. Its job is to get and report advance-information on enemy forces, and to strike violent blows at those forces, preferably at long range.

The vessel that carries out these assignments is the most complex of all warships and has the largest crew. A new type American carrier has about 2300 men on board, and at least 160 officers. Forty of these usually are deck and engineer officers (about the same number needed to run a battleship), the rest air officers. Liaison between flight and ship's officers is close; on U. S. carriers the ship's commander, executive, and navigating officers are or have been qualified Navy pilots.



Ours Are Biggest and Fastest

The carrier is necessarily a large ship; the longer the flight deck the better its aircraft handling record will be. It must have a huge engine installation to give it the speed of a modern cruiser—33 knots or better. New carriers are better protected than those of 10 years ago, but they are still vulnerable in the hull—because an armor belt strong enough to protect them would slow them down.

The U. S. A. builds the biggest and fastest ships, and outfits them with the most and fastest planes—80 to 100 to a carrier. Britain builds smaller carriers, although they are about as fast. Japan goes in for small, fast carriers, often with no superstructure showing above the flat-top flight deck. Germany, fumbling with the design of her first two carriers, is believed to have copied U. S. practice but to have given her ships extra armor protection at the expense of speed and plane capacity. Perhaps the Nazis thought their carriers might have to take more punishment in the narrow North Sea and Baltic waters.

In its most common design the carrier has an open flight deck about 750 feet long, with a navigating bridge and funnel built up amidships at the extreme right, looking forward. This is balanced by bulging tanks at the opposite waterline of the ship, carrying fuel oil or water ballast.

Under the flight deck, and connected with it by huge, fast elevators, are

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hangar decks, where planes are stored, assembled, repaired and tuned.

A typical day on a carrier in war time begins long before dawn for the pilots with the call to quarters. They climb into flight gear and hurry to the wardroom for a quick breakfast. Then they assemble in the ready room, a sizable place with big blackboards, where they get flight orders, navigation instructions, information on weather, wind speed and the ship's course.

Finally the fliers get the order, "Pilots, man your planes," and head for the flight deck, carefully dousing their cigarets before they leave the ready room. Outside the planes are waiting, engines warming up and propellers ticking over, while the mechanical crews who have been at work for hours make the final check-up.

Ready for the Run

A few minutes later the pilots are settled in the narrow cockpits, waiting the signal officer's sign to make the short run down the deck and off into the air. Once assembled in squadron formation at the required altitude the planes are headed for the objective.

The carrier, meanwhile, continues along her course, heading for that spot on the broad ocean where the planes are to rendezvous with her again, hours later. Some fighter planes maintain a continuous patrol overhead, coming down in relays to refuel. If enemy planes should locate the carrier, those fighters and anti-aircraft guns would be her main defensive weapons. A big carrier mounts at least 40 automatic AA guns; pilots who have attacked carriers report that the iron seems to come up so thick you could almost get out and walk on it.

Bringing Them In

At the rendezvous the carrier's planes sweep around in broad circles while she prepares to bring them in. Pilots get landing orders by radio, and each must swing around, get into the imaginary groove and come in over the stern. After a certain point in the approach the pilot can no longer see the deck, and has to follow the signal officer's directions. Armed with colored signal paddles or

lights, this officer judges the quality of the landing; if the pilot is coming in too high or too fast he is waved off to circle and make another pass; if the approach is good he gets the signal to cut his engine and settle to the deck, where the secret arrester device brings the plane to a halt within a few feet.

Then the mechanical crew takes over again, and a pilot, unless he has reports to make, is free to rest and get ready for dinner—the pleasantest hour of his day. Later the men may take a whirl at bridge, chess or the traditional Navy game, acey-deucey. But most of them will be asleep by 10 o'clock; it's early to bed and early to rise on a carrier.

—JOHN HENNESSEY WALKER
and ROBERT A. FULLER

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