

Commander Fuchida's Decision

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The most crucial Japanese mistake at Pearl Harbor was when the commander of the first-wave strike fired two flares, signaling his aviators to use the 'no-surprise' attack plan.

Commander Mitsuo Fuchida sat in the center seat of his Nakajima B5N2 Type 97 carrier attack bomber watching aircraft race off the Akagi's bow into the predawn mist. The weather was glowering, with low clouds and enough of a sea to cause the carrier to pitch heavily, her bow rising and falling; a mistimed attempt to become airborne would be dangerous. There was just enough light to make the horizon a barely visible line under the clouds.

Finally, the fighters at the head of the pack of aircraft were off, launched first because they needed less of a deck run than Fuchida's heavily burdened B5N2s. The bombers, carrying torpedoes and armor-piercing bombs, began their takeoff runs.

The bomber ahead roared down the slick deck. Fuchida's pilot began his count while he blipped his engine to move his aircraft ahead to position it on the center launch line. Their plane rocked in the backwash of the aircraft ahead. When his count reached ten, and after confirming that the previous aircraft had lifted off the bow, the pilot firewalled the throttle. The B5N2 accelerated down the wet deck, becoming airborne just before reaching the bow.

The sluggish bomber labored into a climb, and Fuchida began the process of marshaling his aircraft. This historic event was the first time a force of six aircraft carriers had launched an air strike simultaneously; the feat had not even been attempted in training. One hundred and eighty-three planes quickly formed up into a single strike group, in itself a remarkable achievement and a tribute to the airmanship of the Japanese aviators. Only six planes, 3 percent of the intended first wave, were forced to abort their takeoffs.

Most historians regard the subsequent Japanese attack on Pearl Harbor with awe. It is touted as a tremendous success, a watershed in the transition from the dominance of the seas by battleships to dominance by aircraft carriers. However, what is not generally recognized is that the attack achieved nowhere near its potential.

The Japanese committed more than 170 bombers in two waves against the U.S. Pacific Fleet, the largest number of airplanes sent against warships up to that time and for years thereafter. With a planned first wave of 40 torpedo bombers and 50 high-altitude level bombers with armor-piercing bombs, and a second wave of 81 dive bombers each with a 550-pound general-purpose bomb, the Japanese should have scored sufficient hits on their stationary targets to sink six of the eight battleships and all eight cruisers present in the harbor, with lots of overkill.

The fleet in Pearl Harbor ought to have been nearly wiped out. Instead, the attack achieved only about 20 percent of its potential. The Japanese sank three battleships, got lucky when

two others sank due to American misadventures, and damaged only two of the cruisers. The shortfall was not attributable to the aviators or their aircraft but rather to problems associated with other technological advances, many of which had not been tested in combat, and the planning errors associated with them. A list of the culprits includes radio communications, torpedo warheads, armor-piercing and general-purpose bombs, bomb fuzes, bombsights, and command and control. However, the most decisive of these relates to command decision making and its dramatic effect on the Pearl Harbor attack's crucial first-wave strike.

The Mystery of the Flares

The Japanese had two plans ready for the attack on the Pacific Fleet at Pearl Harbor: one if they achieved "surprise," and another for "no surprise." The officer responsible for ordering the correct plan was Commander Fuchida, the first-wave strike's tactical commander. While approaching the targets he was to observe, decide, and communicate which plan to execute using signal flares—one for surprise, two for no surprise.

The following account, based on interviews with Fuchida conducted between 1948 and 1967, appears in Gordon Prange's biography of the aviator, *God's Samurai: Lead Pilot at Pearl Harbor*, and is repeated almost word-for-word in Prange's *At Dawn We Slept: The Untold Story of Pearl Harbor*:

Almost sure that the strike would come as a surprise, [Fuchida] fired a single Black Dragon rocket [flare]. [Lieutenant Commander Shigeharu] Murata [leader of the torpedo bombers] saw it and swung low toward the target. But Lieutenant Masaharu Suginami, a fighter group leader, kept his aircraft in cruise position. Thinking he had missed the first rocket, Fuchida fired another. Then he groaned—[Lieutenant Commander Kakuichi] Takahashi, mistaking the second rocket for the double signal meaning that the enemy was on the alert, swooped in with his dive bombers. Fuchida ground his teeth in rage. Soon, however, he realized that the error made no practical difference.

A critical addition to the tale is in the U.S. Strategic Bombing Survey's *Interrogation of Japanese Officials* and repeated in *At Dawn We Slept*: Fuchida said that the interval between firing the two flares was "about 10 seconds."

This important detail is where Fuchida's story began to unravel. Consider a time line of this process:

1. Fuchida fires one flare.
2. He observes the reaction. He notes that Suginami's group does not move. He decides to fire a second flare.
3. He breaks open the flare gun and extracts the expended cartridge.

4. He stows the cartridge case away. He would not just drop it on the deck (such “gear adrift” could hit him in the face when the aircraft makes violent maneuvers) or put the hot cartridge case in a pocket.
5. He pulls another flare out of stowage. He would not have had two in hand, since his original decision was to fire only one.
6. He loads the flare gun and snaps it shut.
7. He points it outside the canopy.
8. He fires the second flare.

Reloading and firing the gun under those conditions might take six to eight seconds, at best. That means step 2—observing that the fighters were not responding to the first flare—took up only two to four seconds. The flare would not even have burned out in that time.

Also consider the situation from the group leaders’ perspective. They would see the flare and then wait to determine if a second flare would be fired. No one would change position until it was clear the signal consisted of only one flare. How long would they wait? At least the minimum interval for reloading a flare gun and then some seconds (or minutes) more to be sure.

Also add another step, 1a: shutting the canopy. Since Fuchida claimed he was going to fire only one flare, his first action after firing would have been to slide shut the canopy. Cruising at 140 knots with the canopy open makes for howling turbulence in the cockpit. Given all the papers, charts, notes, and codebooks Fuchida was handling, if he intended to fire only one flare his first action after doing so would have been to shut the canopy.

With the addition of step 1a, the entire ten-second interval between the flares is filled. That leaves no time for Fuchida to observe the reaction to the first flare and decide to fire another one—suggesting that he meant to fire two flares from the start.

Another detail rankles. Fuchida said the torpedo bombers departed first. They would be nose down dropping from a nearly 10,000-foot altitude to 65 feet, which would add 40 to 60 knots to their speed over ground—faster than the Aichi D3A1 Type 99 dive bombers. How then did the dive bombers strike Ford Island three to five minutes before the torpedo bombers arrived to attack ships moored just off the island?

The Two Plans

Is there any way to prove Fuchida intended to use the no-surprise plan from the outset? In the surprise plan, the first-wave attack group would fly south from the carriers and make landfall over the northern tip of Oahu. They would then fly south as a single mass over the center of the island, peeling off fighters and dive bombers along the way to attack air bases. North of Pearl Harbor, the dive bombers assigned to attack the Ford Island airfield would orbit while the torpedo bombers pressed forward to attack first. The planners did not want exploding bombs and dive bombers recovering from their dives to interfere with the torpedo attack. From a point north of the harbor, the torpedo bombers would split into two groups, one circling around to attack Battleship Row from the east, the other to attack the carrier moorings from the west. The torpedo bombers' attacks, critical to the success of the whole operation, would be delivered "nearly simultaneously" and before the defenses awakened.

The no-surprise attack plan was a lash-up concocted in the wardroom of the Akagi by Fuchida (the strike leader), Commander Minoru Genda (the lead planner), and Murata (leader of the torpedo bombers) during the transit to the launch point. Belatedly, the Japanese realized the Americans might not be surprised. The vulnerable torpedo bombers, attacking unsupported, could be butchered before they had a chance to deliver an effective attack. So the lead aviators assembled a contingency plan. The dive bombers would attack Ford Island first, attracting the attention of American eyes, fighters, and antiaircraft guns, while the torpedo bombers tried to slip in low shortly thereafter.

This was a miserable variation on an already poor plan. Most of the fleet's antiaircraft guns that would engage torpedo bombers attacking Battleship Row would not be able to bear on dive bombers attacking Ford Island, so it's not as if those guns would be otherwise busy. There were other issues as well. However, the no-surprise plan was the best Fuchida, Genda, and Murata could come up with on short notice.

The plan was signaled to the other carriers in the fleet by flashing light. It is not known how carefully it was explained, and there is no mention of this signal in the official Japanese histories.

Problems with the Commander's Account

The first inconsistency in Fuchida's story comes from Fuchida himself. According to his testimony, the strike group began by flying south toward Oahu. At landfall, clouds were obscuring their path, so he turned the formation west to parallel the coast. He fired one flare, and the torpedo bombers left the formation; he fired the second flare, and the dive bombers "mistakenly" broke away to try to get their strike in first.

After these events, which Fuchida took no action to correct, his plane cleared the cloud cover, and, as recounted in *God's Samurai*: "Through his binoculars he looked at Pearl Harbor. What a majestic sight! . . . Fuchida saw seven battleships." In other words, Fuchida made his attack-plan choice before he looked into the harbor and determined if the Americans were on

the alert. Either he had made the decision based on the fact that his aircraft had not yet been intercepted by American fighters, or he had decided he was going with the second plan regardless.

Another inconsistency emerges. According to Fuchida, Murata's torpedo bombers swung away from the main formation as soon as the first flare was fired. However, the first track charts of the attack provided to the Strategic Bombing Survey (SBS) immediately after the war most likely by Fuchida himself do not corroborate this story. They show the dive bombers heading south first, while the torpedo bombers continued west for some time before turning south.

Track charts generated in later years by other Japanese participants also show the dive bombers departing first, and the torpedo bombers continuing west even farther than on the SBS's chart, for another five to seven minutes. They nearly reach the extreme northwest of the island before turning south and flying down the spine of Oahu's western mountains.

Fuchida's story does not match the charts. But why would the torpedo bombers continue heading west? In the surprise plan, which according to Fuchida they were following, the torpedo planes should have turned south immediately to head for an IP (initial point) north of Pearl Harbor. In the no-surprise plan they were to wait for the dive bombers to attack first, and not head for the IP in the middle of the island, since they were sure to be sighted by enemy fighters. The delay was necessary to the timing: If the torpedo bombers immediately turned south at the same time as the dive bombers and began their descent from cruising to attack altitude, they would pick up airspeed and quickly pull ahead of the dive bombers. So the only reason the torpedo bombers would have held north of the island was if they were executing the "two flares" (no-surprise) plan.

American sightings of the torpedo bombers as they passed along the spine of the Waianai Mountains heading south offer a way to corroborate this delay. They were reported with very specific times and locations. Doing the time-and-distance calculations, it is evident that the torpedo bombers did indeed delay their turn to the south some five minutes or more after the dive bombers headed in.

When I offered the time-and-distance calculations to one expert on the torpedo bombers' attack, he dismissed it, saying the calculations could not be considered accurate since the time ticks could easily be off by many minutes. However, this discounts the military institution of morning colors.

Every day at exactly 0800 the ceremonial raising of the U.S. flag was conducted at military bases and ships throughout the island. Five minutes before, at 0755, "Prep" was sounded, a loud and clear bugle call. Performed on all ships and stations, the bugle calls cannot be missed. When colors sounds, bands play the national anthem, all vehicle traffic on base stops, and any person outside of a building faces in the direction of the nearest flag and salutes.

At Pearl Harbor, the time of Prep and morning colors was synchronized by a signal from the harbor control tower. Consequently, from just before Prep and until just after colors,

servicemen are quite aware of the time. When testimony has a group of aircraft passing over a location at 0758, you can be confident that it's accurate.

All this adds up to one thing: Fuchida was not telling the truth when he claimed that he intended to signal for a surprise attack. From the outset, he wanted to fire two flares, and did so just about as fast as possible. There was no confusion. All the aircraft executed the no-surprise attack instructions as ordered.

Why did Fuchida lie? Perhaps because he ordered the wrong attack, one that as executed became ragged and uncoordinated. He possibly was deflecting the blame to "that blockhead" Takahashi.

Fuchida had made his decision, for whatever reason, to execute a no-surprise attack from the outset, while cloud cover still blocked his view of the island and harbor. Only later, when he realized that surprise had indeed been achieved and that he had ordered the wrong attack, did he put together the tale of the mistaken interpretation of his signal. He could not back away from his statement that he fired the flares at a ten-second interval since he already had placed that fact on the record in 1946, two years before he decided to shift the blame to Takahashi. Perhaps he simply forgot what this fact would imply. In any case, Takahashi could not defend his honor because he was killed in action at the Battle of the Coral Sea. (Upward of 90 percent of the Pearl Harbor attack aviators died in the war.)

A Technological Issue?

By mid-1941 the Japanese had their carrier aircraft retrofitted with voice radios, which were difficult to use and only fully installed a few months before the attack. Voice communications could have sorted out which attack plan to execute if it had been included in the plan, but instead the attack planners opted to use flares. Why flares were used when other attack orders were passed by keyed HF radio transmissions and voice radio was available is an unresolved question previously unasked by historians.

One possibility is that the Japanese were comfortable with flares. They used them for command and control before radios were installed and likely felt at ease using them again. A second possibility is that Fuchida, Genda, and Murata might have wanted to keep the addition of a new plan secret from their superiors. The invention of a no-surprise plan a few days before the attack did not reflect well on the planners, who had almost a year to consider contingencies. The three commanders concocted the no-surprise plan over the wardroom table, and they likely never informed anyone higher. When executing the operation, a radio broadcast might be picked up on the flagship and heard by the admirals; a flare could not.

For that matter, if there was indeed confusion between one flare and two, why didn't Fuchida get on the voice radio and sort it out? Probably because he had yet to realize he had committed a blunder.

The Decision's Consequences

Recall that Fuchida claimed, after "grinding his teeth in rage" at Takahashi, "he realized that the error made no practical difference." Was he correct? In the no-surprise attack plan, the dive bombers that were to attack the Ford Island airfield were to go in first. Their attack was expected to distract the Americans away from the torpedo bombers' attack. Would that have worked?

At Pearl Harbor, the Pacific Fleet was defended by nearby U.S. Army 3-inch mobile and fixed antiaircraft (AA) batteries and guns on board the fleet's warships. The Army batteries were best used against high-altitude level bombers or dive bombers before they pitched over into their attacks. Distracting the Army AA batteries would not gain much; they would be busy firing at targets they were designed to engage. Moreover, they had little capability against low-flying torpedo bombers.

That leaves the fleet. All the ships on Battleship Row had antiaircraft machine guns—dual or quad .50-calibers with a few of the new quad-mount 1.1-inch guns. They also had 5-inch/25-caliber heavy AA guns. Most of the weapons that could engage a dive-bombing attack on Ford Island could not engage torpedo bombers, and vice versa. An early attack by Japanese dive bombers would not divert fire from torpedo bombers. Perhaps some eyes would be drawn to the dive bombers and a few torpedo bombers would be able to take advantage of the distraction, but certainly this would not carry for more than the first several aircraft out of a string of 24 torpedo bombers attacking Battleship Row one at a time. Therefore, the no-surprise plan would not achieve what it was intended to accomplish.

There are other effects. The dive bombers landed their first bomb about five minutes before the first torpedo planes began their runs against the battleships. After only a few explosions the battleships were sounding general quarters and sailors were closing all watertight doors and hatches in setting Material Condition Zed (Condition Zebra in present-day parlance)—the highest state of watertight integrity. It takes about six to eight minutes for a battleship to set Zed, and many of the Pearl Harbor ships reported that they were locked down tight in less time. In other words, most of the battleships would be only two or three minutes away from their best state of watertight integrity when the first torpedo bomber delivered its attack, and the torpedo attacks would last more than ten minutes.

If the plan had been executed as planned for "surprise," the torpedo bombers would have attacked first, hitting the ships on both sides of Ford Island simultaneously. As it was, ships at the carrier moorings on the northwest side of the island were hit three to five minutes before those moored along Battleship Row on the opposite side of Ford. The huge columns of water from torpedo hits on the Utah (AG-16) and Raleigh (CL-7) served to convince many battleship sailors that "this is not a drill," and reinforced that five minutes of warning.

What were the consequences of five minutes of warning? Without the warning, the West Virginia (BB-48), hit by seven torpedoes, likely would have capsized; she was saved only by impromptu counterflooding. The California (BB-44), too, might have capsized after two hits if she had not had time to close her watertight doors and hatches before the first torpedo hit.

That five minutes also gave additional time to man anti-aircraft weapons and open magazines. The aviators in the first attacking torpedo bombers were shocked by the fire they received. As the minutes ticked by, more and more guns came into action. The fire became so intense that five of the last seven torpedo bombers to attack Battleship Row were shot down, and others had their attacks disrupted so that they missed their targets or had to jettison their torpedoes.

Without those five minutes, those last seven bombers might have scored additional hits. Without that five minutes, the damage to the fleet could have been significantly higher. Fuchida's selection of the no-surprise plan certainly did have practical consequences.