

SFChronicle DEC 22 1972

# B-52s vs. Missiles

## --The Deadly Fight

By George C. Wilson  
Washington Post Service

### Washington

Every morning now, crews of six Americans each climb into their B-52s on Guam island for the deadliest rendezvous of the war in the skies seven miles above Hanoi.

Before the day is over, there will have been a life or death contest between the giant B-52s and telephone-pole-sized missiles fired by North Vietnamese gunners.

Both weapons were designed for another place and another time. No one envisioned them as combatants in a limited war like Vietnam.

The eight-engine B-52 was "air power" designed to keep Russian fingers off the nuclear button. If that button ever were pushed, the B-52 was supposed to fly from the U.S. to Russia to incinerate the country with H-bombs.

### SA-2

The missile the Russians developed to knock down such high-flying bombers is called the SA-2 Guideline, the weapon now in the hands of the North Vietnamese.

During the grim cat-and-mouse game the superpowers played during the cold war, the B-52 was strengthened so it could fly in low to hit Russia, in the hope of evading warning ra-

*See Back Page*

### From Page 1

dars and high-altitude anti-aircraft weapons like the SA-2. Russia, for its part, developed another missile, the SA-3, to protect the country against such low-level flights.

Never during the long cold war did the Soviet Union fire

an SA-2 at an American B-52. But an SA-2 knocked down Gary Powers and his U-2 in 1960. Powers was flying more than ten miles up, demonstrating that height alone was not adequate protection against the missile.

Today's Air Force leaders know this, of course. They have turned to "black crows" to give the Airman Flying B-52s against the SA-2s more protection than just height.

### BRAINS

Black crows are the human brains behind the black boxes crammed into B-52s to foil North Vietnamese gunners. The tricks range from jamming the anti-aircraft radars to making the B-52 show up on enemy scopes as flying far from its real location. The whole bag of tricks is called electronic counter measures, or ECM.

A World War II trick also has been called out of retirement for Vietnam — the old technique of dropping tin foil out of airplanes to make the enemy's radar beams break into a snow of confusion as they bounce off the material.

For this war, the chaff has been updated. It consists of glass fibers the thickness of human hair coated with a metallic substance.

But Russia has improved the SA-2 for Vietnam, although not to the extent the Pentagon feared years ago. And the North Vietnamese themselves have been innovative.

### BINOCULARS

For example, one member of a North Vietnamese missile crew often will track approaching bombers by eye with powerful binoculars. He

can help aim the SA-2s when radars are jammed by American technology.

Most of the improvements to the SA-2 system have been on the radar, not the missile itself. American fighter-bombers — which can go into tight turns and steep dives — have been able to dodge the SA-2 most of the time.

B-52s are another matter. While they are high, about seven miles up, they are too big and clumsy to go into the sharp maneuvers of a fighter-bomber. The SA-2 thus has a far easier time hitting a B-52.

### SURVIVAL

Whether a B-52 survives an SA-2 attack depends on how well its armed escorts of fighter-bombers and other aircraft attack the North Vietnamese gunners on the ground; how effectively the electronic counter measure (ECM) aboard the B-52 itself and accompanying planes foil the SA-2 radar, and luck.

For their part, the North Vietnamese rely on their SA-2 radar to catch the B-52 in a scissors action. One part of the radar system the bomber; another tracks the SA-2 itself after launch.

The SA-2 sends back signals to the North Vietnamese as the missile races toward the bomber. The gunners, if they see from the radar images that the SA-2 is off course, can send a radio signal to the missile to correct its aim.