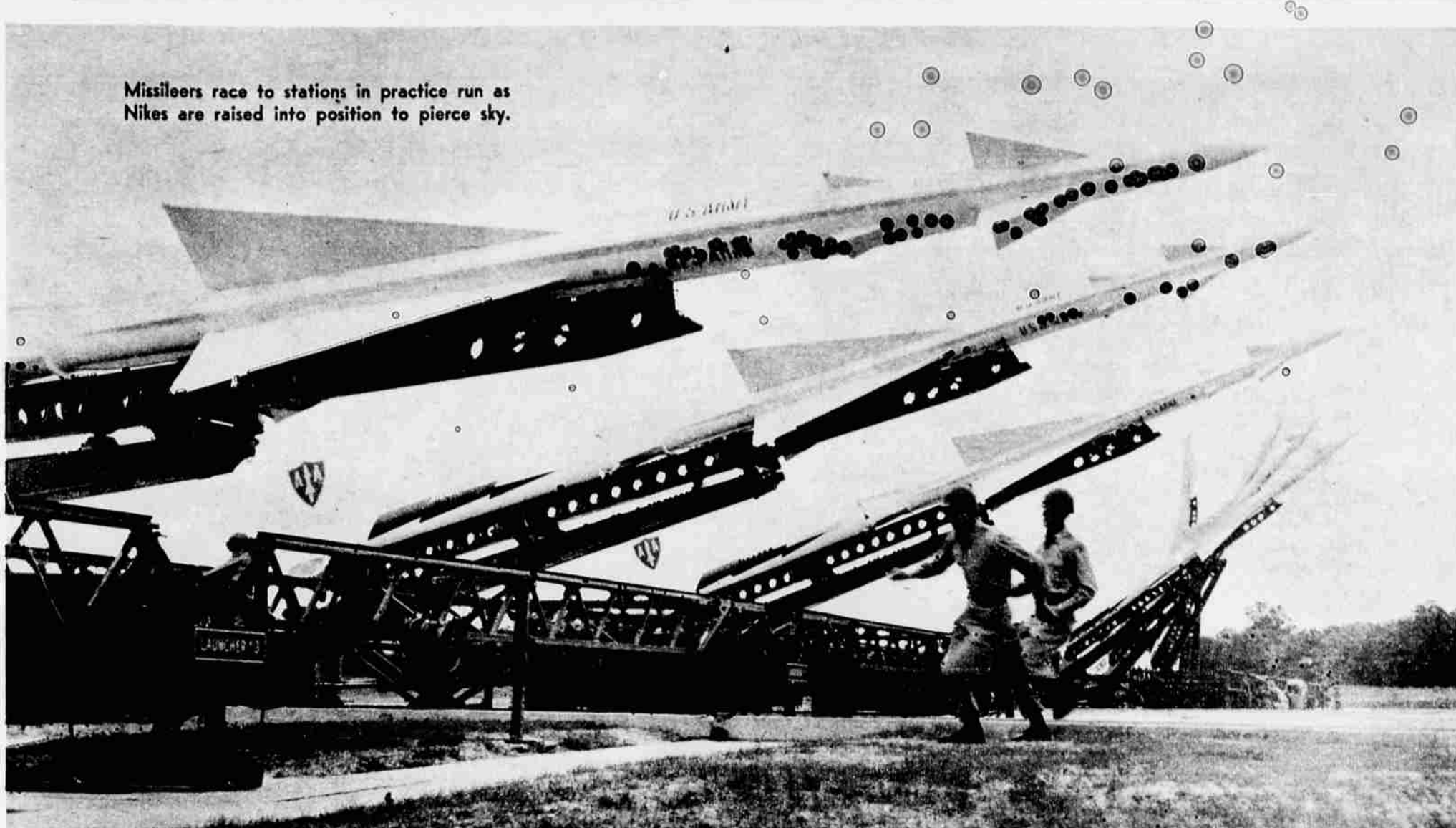


Missileers race to stations in practice run as Nikes are raised into position to pierce sky.



New and better missiles are on the way, but here's a look at the best one we have right now.

When Russia launched its earth satellite recently, military experts were less concerned about the satellite itself than they were about the power that sent it aloft. If the Reds had a missile that could reach outer space, then they surely had one that could reach the United States—with an atomic warhead instead of a harmless satellite. Are we vulnerable to an intercontinental attack? This article explains how our chief defense against such attack would work. The Nike—which can track down and destroy anything that flies—was ready long before the Reds launched their history-making flight, but it may soon be replaced by newer, deadlier watchdogs.

THE GROUP of visitors gazed in awe at the gigantic underground missile storage depot. "You can see why we need plenty of land for these Nike bases," explained a young Army sergeant to the civilians touring a Nike missile base near a large Eastern city. "The storage areas alone need several acres."

"But why do the Nike bases have to be here?" asked a woman in the group. "I don't want you shooting off those rockets near my house and scaring us out of our wits."

"The missiles won't be fired unless an enemy is trying to drop a bomb on your house, lady," the sergeant answered patiently.

"We hope," muttered a visitor in the background.

Both reactions are typical of the public's attitude toward the Nike bases springing up across the country. At the latest count, 22 major industrial areas—vital centers that must survive if war comes—have been ringed by the Army's anti-aircraft missile batteries. Although most residents of those cities realize the need for Nike, they wish the bases weren't so near their homes.

But the intrusive Nike is becoming the nation's top air-defense weapon in this Cold War era. Already supplanting ack-ack artillery, it soon may replace fighter-interceptor planes in guarding the skies against attack.

Just what is Nike? Named for the Greek goddess of victory, it's a rocket that thinks—a guided missile that can track and hunt down attacking atomic bombers, then pulverize them.

Nike's deadly knockout punch is compressed in a slender cylinder

20 feet long and about a foot in diameter. Chasing its target at supersonic speeds, the missile is expected to score kills on two out of every three shots. At that rate, the \$20,000 price tag on each missile represents a great bargain.

The present Nike—the Ajax model with a warhead of high explosives—has a killing range beyond the minimum safety radius of any major city. Nike Hercules missiles, scheduled for use within a year, will travel twice as far and carry atomic warheads capable of wiping out entire fleets of attacking bombers, and are reputed to be 100% effective. Still in the top-secret development stage is Nike Zeus, planned to intercept intercontinental missiles, the dread ICBM.

HOW DOES Nike work? Actually, the missiles are but one part of our over-all air-defense system, which includes radar warning stations in the Arctic and out at sea, as well as jet fighter planes and anti-aircraft artillery. Should atomic bombers penetrate these defenses they will find every inch of air space over and around the nation's vital cities guarded by Nike batteries on 24-hours-a-day, 365-days-a-year alert.

The "brains" of a Nike battery is the computer, an electro-mechanical unit capable of determining that point where the target and missile will meet. Nike technicians constantly scan the scopes of the first radar unit—the acquisition radar—for signs of air intruders, news of which will come from the distant warning stations.

If an intruding plane is identified as hostile, the target tracking radar begins tracking the plane automatically and relays its altitude, speed, present position, and course to the computer which determines the intercept point.

When the target is within range, the battery control officer presses the fire button which sends the missile on its way. The missile tracking radar now takes over and tracks the missile while it is in flight and send commands to it which guide it on its way.

The entire operation of detecting, identifying, tracking, and obliterating a target takes but one minute. Even so, the new Russian intercontinental bombers can travel 10 miles in that minute.

No matter how slender the time margin, Nike missiles are helping

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