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MUST: Vietnam's Inflatable Air-Conditioned MASH

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The Medical Unit, Self-contained, Transportable (MUST) arrived in Vietnam during the 1960s in an effort to bring to the battlefield a higher level of medical care than ever achieved before. Unlike the MASH units used during the Korean War, MUST field hospitals were air-conditioned and equipped with surgical and patient care facilities closely approximating those in permanent hospitals. Modular and lightweight construction enabled them to be transported by helicopter and truck, each component doubling as a shipping container. Once on site, the entire complex could be assembled in a matter of hours.

A fully assembled MUST consisted of three components: an expandable surgery unit; an inflatable, double-walled fabric shelter that became a ward handling up to twenty casualties; and a 3,600-pound utility unit containing a multifuel gas turbine engine to provide power.

To expedite installation, troops would set up several units simultaneously, unfolding walls and connecting them with cables, hoses, and air ducts, while others installed the utility unit. Once assembled, the entire complex had electricity, running water, and air-conditioning.

Before they were approved for use, all MUST components passed rugged, simulated field tests.

The real test, however, came after deployment. For example, the 45th Surgical Hospital in Tay Ninh was subjected to mortar attacks on November 4 and 11, 1966. The 3rd Surgical Hospital underwent a similar attack on July 24, 1967, with extensive damage to the inflatable units. In 1968 the 3rd Surgical Hospital was attacked thirteen times, with the intensive care ward and postoperative ward heavily damaged or destroyed. But only a few staff members were lightly wounded, and the facility was repaired quickly. Later in the war, revetments were built around inflatable MUST components.

Among the standard features of a MUST field hospital were folding worktables, efficient storage units, a nine-position operating table, flexible surgery lights, special refrigerators and sterilizers and air conditioning. To make this possible, as well as to keep the hospitals inflated, a sixty-bed MUST could use as much as 3,000 gallons of JP-4 per day, enough fuel to propel a Huey helicopter up to 4,270 nautical miles.

Despite all the innovative features, the MUSTs were used for only a few years in Vietnam with "mixed success," according to the U.S. Army's Medical Department. No units were equipped with MUST equipment after January 1969. The last two MUST hospitals, the 2nd and 45th, closed in 1970.■