NEW DEVELOPMENTS IN WEAPONS AND EQUIPMENT

"SKYSWEEPER" ARTILLERY

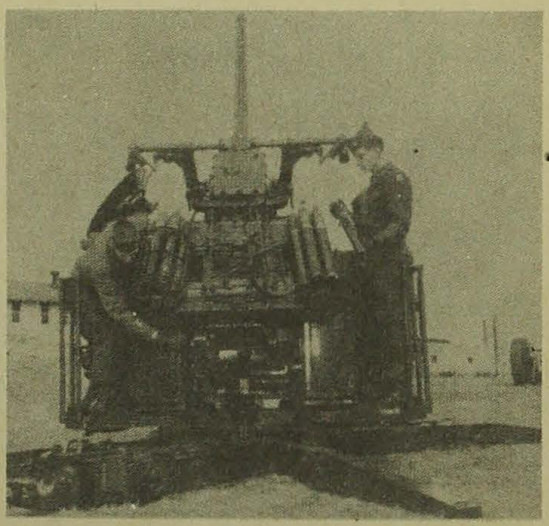
A 75-mm automatic anti-aircraft gun with radar, and computer on one carriage, the first fully integrated gun and fire control weapon, has been unveiled by the Army and named the "Skysweeper." It is the Army's largest caliber automatic antiaircraft artillery weapon.

The Skysweeper will find and track approaching aircraft as far away as 15 miles. It fires on and defeats air targets as far away as four miles, operates day and night regardless of weather conditions, even when aircraft are invisible in a blanketing fog. It will fire automatically at planes flying near sonic speeds, at low or medium altitudes, and in the event of closely grouped targets, the operator can make a target selection.

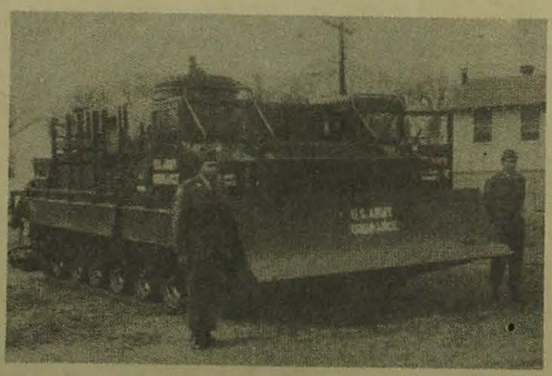
It fires a high explosive shell weighing 12½ pounds at the rate of 45 rounds per minute. A proximity or radar fused shell explodes automatically at a pre-determined distance from the target. Ammunition is automatically fed and rammed into the gun from two 11-round magazines by an electrically operated mechanism. Firing is controlled remotely by either the radar-operator or computer-operator.

The weapon can be emplaced and have its radar operating in five minutes on either rough or level terrain. The unit weighs ten tons and is air transportable. The radar sweeps the entire sky once every 40 seconds. The computer automatically plots range, speed and course of approaching target and translates this information into corresponding gun motion.

Development of the gun was begun by



The Skysweeper, the largest caliber automatic weapon in the Army's Arsenal of weapons, is the latest and most effective artillery weapon against low-flying, high-speed aircraft. It is designed to spot, track and intercept invading planes. Army Photo.

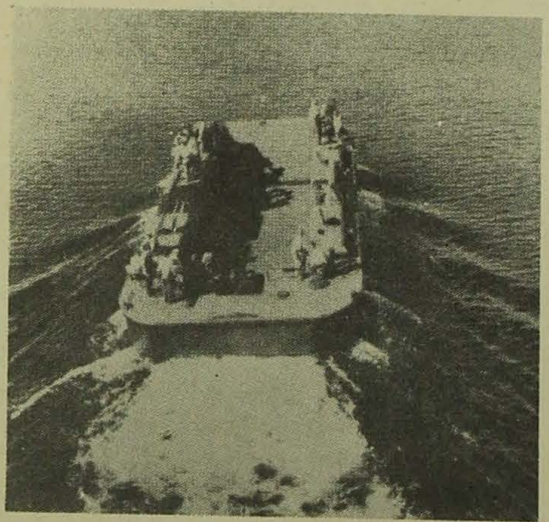


The M8E2 Cargo tractor, mounted on a light tank chassis, is used to tow the Skysweeper gun. In the rear is a motor generator which supplies electrical power to the gun mount. Army Photo.

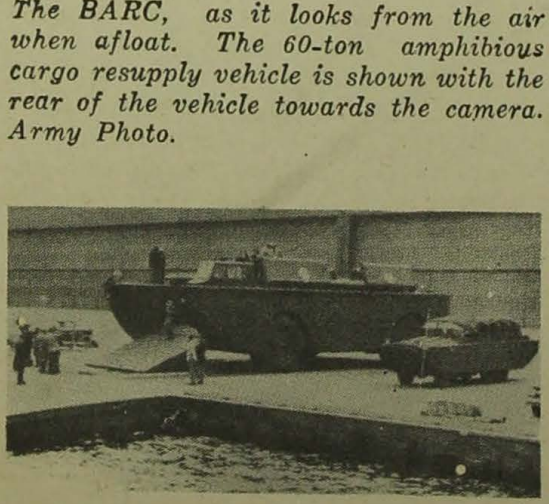
Army Ordnance late in World War II. The new weapon has been called the finest weapon of its type in the world, representing an entirely new concept in Army antiaircraft artillery. It is being produced by mass production methods. —*Report to the Army.*

NEW AMPHIBIAN

A huge, 60-ton, amphibious cargo vehicle which travels on 10-foot high tires and is capable of transporting heavy items of military equipment, was recently unveiled by the Army in a public demonstration at Fort Lawton, Washington. In a ship-to-shore operation the new vehicle demonstrated its ability to take aboard a medium tank, transport it ashore over a soft beach, and unload it well inland ready for combat action.



The BARC, as it looks from the air when afloat. The 60-ton amphibious cargo resupply vehicle is shown with the rear of the vehicle towards the camera. Army Photo.



A World War II DUKW alongside of the new Army BARC, presents a comparison of size and shape. Army Photo.

Officially designated the BARC, the vehicle operates on principles similar to those of the well-known DUKW of World War II, which it closely resembles on a magnified scale, as the accompanying photographs illustrate. It can perform tasks ashore and afloat far outranging present amphibious vehicles. It can take heavy loads from shipside in deep water, across a beach and over rough terrain to an inland supply point for direct discharge, or for transfer to truck or rail, largely eliminating necessity for difficult and inefficient rehandling of cargo at the waterline.

The BARC has an over-all length of 61 feet, width of 27½ feet and a height of 16 feet. Despite its size, it requires only a single operator both on land and in the water and requires a basic crew of only three for all its operations.

Each of the BARC's four wheels is separately powered by an individual 165 horsepower industrial Diesel engine driving through a torque converter and torquematic transmission. The transmission has three forwards speeds and one reverse, with a land speed up to 15 miles per hour. Steering on land is accomplished by hydraulic control and power, which is used extensively throughout the vehicle. The driver may steer by front wheels only, leaving the rear wheels locked in a straight position, or use front and rear wheel action simultaneously for sharp turns. He can also set the wheels for "crab-steering" to either side.

Afloat, the BARC can maneuver almost as easily as a small landing craft. It is propelled by twin screw propellers, each powered by two of the four engines. The vehicle is the first of four being constructed, and is expected to proved an effective remedy in overcoming supply bottlenecks which have characterized some previous amphibious operations. — *Report to the Army.*

AMBULANCE JEEP DEVELOPED

An ambulance jeep, to be used for moving wounded servicemen from the battlefield has been developed and is expected to be put into production soon. Also known as the cross-country ambulance, the new front-line vehicle will be used on rough terrain. Wheelbase has been increased to 100 inches, the entire body is inclosed, and a forced-air heater provides weather protection. It can accommodate three litter patients, or two litter and four ambulatory patients. Parts are 96% interchangeable with the conventional jeep.

FIELD UNIFORM

A new field uniform is being tested by the US Air Force which may some day replace the present fatigue uniform. It is light green in color and is composed of five pieces—shirt, trousers, jacket, and summer and winter hats. —*All Hands.*

ANTITANK GUN

A new recoilless antitank gun — one powerful enough to destroy the modern tank of 50 tons or more — has been developed in Britain and will soon be issued to field units of the British Armed Forces. —*British Information Services.*

PORTABLE TELEVISION TRANSMITTER

A suitcase-size television transmitter has been developed to speed spot news to video screens. Moreover, for persons who live in a mountain-locked community, it may mean that television signals can be snatched from the skies and sprayed down to antennas in the valley. However, someone has to figure out how to make it pay.

The television transmitter plugs into ordinary household electric current. It takes the picture from the camera in the form of electric impulses, and then beams both picture and sound to a receiver.

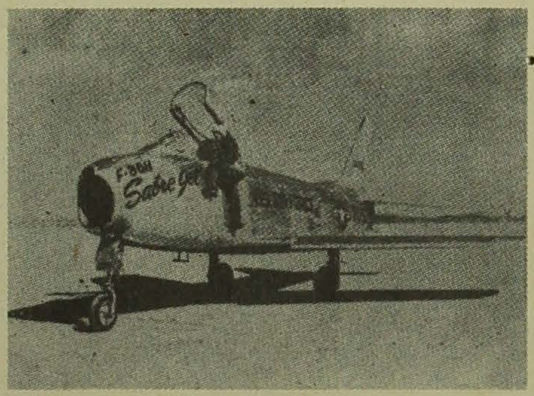
This means that a bad airplane crash in an out-of-the-way place can be televised from the spot, and can be relayed back to the nearest station scores of miles away. There it can be fed into the network for national telecasting.

The system can be reversed to pick up television programs from a faraway station and rebroadcasting them locally. —*Science News Letter.*

NEW SABRE JET FIGHTER

A new and more powerful *Sabre* jet fighter—the *F-86H*—recently completed its first flight.

The new *Sabre* is a completely new airplane designed to carry out dual missions as a fighter bomber and a day fighter.



The latest model *Sabre*—the *F-86H*.

Slightly larger than current *Sabres*, the "H" is the fifth and latest in the *Sabre* series.

The *F-86H* is powered by a *J-73* jet engine, which incorporates many advances in design engineering with considerably more thrust, yet has the same frame size as the older models.

Sabre improvements resulting from combat experience remain restricted, but the Air Force announced that the "H" has a clam shell type canopy, a sturdier landing gear, and improved suspension and release mechanisms for carrying droppable wing tanks in conjunction with bombs and rockets for its fighter-bomber role. It also carries six .50-caliber machine guns.

All controls of the "H" are hydraulically operated with an all-movable horizontal stabilizer replacing elevators for greater pilot control as in the *F-86E*. However, it will be somewhat larger.

The *F-86H* is in the 650-mile-an-hour class, has a combat radius of more than 600 miles, and a service ceiling of more than 45,000 feet.—News release.