Helicopter Unloads on Treetops

➤ A NET landing platform from which helicopters can unload troops directly on the treetops is just one of the rush-orders from Viet Nam that have been filled by the U.S. Army's Limited Warfare Laboratory (LWL).

The LWL, located in Maryland at Aberdeen Proving Ground, specializes in handling emergencies as they arise.

Six of the treetop landing platforms, often towering 150 feet in the air, are already enabling troops to be sent by air to areas that formerly could be reached only on foot.

Two 150-foot-long stainless steel nets, one forming a cross with the other, are unrolled over the trees from a dispenser carried beneath a helicopter. A six-sided platform, 18 feet across, is set down where the nets intersect. Capable of bearing up to 4,000 pounds, the platform is equipped with a powered winch for evacuating casualties from the jungle floor below.

To meet the LWL's special demands, more than 4,000 scientists and technicians were evaluated to produce a staff of 134 civilians and 12 military officers.

Since Viet Nam has taken up practically all of the LWL's time, many of the new inventions are concerned with helicopters.

One is a system to help pilots spot small arms fire before landing. Another is a fuel transfer pump that has cut 90% off the time needed to refuel a "chopper."

Smoke of all colors and sizes has emerged from the Laboratory at various times. A smoke-marker that can be dropped from a plane and will work in trees, swamps, rice paddies, water or on hard ground weighs only seven and a half pounds and burns for five minutes.

A tiny cartridge weighing scarcely an ounce burns only 13 seconds as a locator for aircraft, but it is not likely to be missed: it comes in red, yellow, green or white.

The LWL has also devoted a good bit of research to lighter, stronger armor for troop transport and scouting vehicles. In addition to a detachable "armor kit" that can be fastened in place in the field, the Laboratory has issued a manual called "The Use of Field Expedient Armor." This handy little guide instructs troops in various ways of making armor from "readily available indigenous materials" instead of waiting for aid from such sources as the Limited Warfare Laboratory.

The soldier in Viet Nam must battle mosquitoes, leeches and other jungle and swamp creatures as well as the Viet Cong. The LWL has developed an almost odorless repellent that stays on despite repeated sessions of sloshing through swamps.

A more general survival kit is designed to be supplemented with food gathered or hunted down in the field. It provides minimum essentials for about 10 days.

Although only established in 1962, the Limited Warfare Laboratory is already filling a vital role in modern warfare.

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Department of the Army

TREETOP LANDING—A model of a "staging" platform, installed like a canopy over jungle growth, supports a landing helicopter. Thus it is a portable base for loading or unloading troops and supplies and evacuating casualties.

TECHNOLOGY

Slick Trick Sticks Nonstick Plastics

➤ NONSTICK PLASTICS such as Teflon are working so well that scientists have finally had to devise a special process to make them stick to other materials.

Previous attempts to solve the problem have resulted only in weakening or discoloring the plastic. In fact, it was practically impossible to print on Teflon because even ink would not adhere to its surface.

Scientists at Bell Telephone Laboratories, New York, have now invented a process in which exposure of polyethylenes to an electrically-activated inert gas such as helium or neon creates a tough outer "skin" to which adhesives will stick. The resulting adhesive joint is reportedly 10 times stronger than it would be with untreated plastic.

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CONSERVATION

Water Study Plans Announced by President

➤ EVERY RIVER flowing in the United States will be under the eye of a specialist to keep it clean, keep it flowing and see that it is used to its best advantage.

A report of a 10-year program of water research has been announced by President Lyndon B. Johnson summarizing the many complex problems of water quality and supply confronting the United States.

This report proposes a systematic approach to the study of the interaction of water problems such as pollution, treatment of wastes, effect of urbanization, conservation of water for urban and rural areas, evaluation of climatic changes and studies of flood and droughts, said Dr. Donald F. Hornig, chairman of the Federal Council for Science and Technology and Special Assistant to the President for Science and Technology.

A program of research on methods of conserving water in industrial and municipal use should be initiated at once, the report said. Research should be greatly expanded on methods of dealing with pollutants from fertilizers and acid mine wastes.

The report, pinpointing areas of research in need of immediate attention and specifying research goals in more than 40 important categories, will be used in preparing the Federal budget requests for Fiscal Year 1967, President Johnson said.

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