POPULAR SCIENCE

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HOW OUR FIGHTER-PLANE KILLING POWER COMPARES WITH OUR ENEMIES' PG. 76

WHAT IS THE TRUTH ABOUT THE FORTRESS OF EUROPE? PG. 49

Mastery of a bulldozer is one of the things this Seabee recruit learns. Overseas, and under fire, he may take it apart, put it back together, and make it do tricks

The Seabees Can Do It

Whatever the job, the Navy s Construction Battalions will tackle it . . . with their own brand of rough-and-ready engineering.

By ALBIN E. JOHNSON

OFFICIALLY they're known as the U. S. Navy Construction Battalions. Popularly they're called the Seabees, a play on alphabetics. Among themselves, and by the regular Navy and the Marines who have seen them in action on the beachheads and bases of the seven seas and in Alaska and Greenland, they are the Can Do's—the boys who can do, and *do* do anything. They are to the Navy what combat engineers are to the Army. Their motto is *Construimus Batuimus* (We Build and We Fight), and they are one of the secret weapons of this war.

Ben Moreell (Rear Admiral Moreell, to be formal), chief of the Navy's Bureau of Yards and Docks, goes all out for his Seabees. Taken from the ranks of civilian con-

Intensive training in landing operations conditions Seabees for going ashore as engineers with our first waves of invading troops. These bomb bursts simulate actual conditions in exercises on the East Coast

struction workers and technicians, they now have reached the formidable total of about 200,000 and are still being recruited. Moreell recalls what they did at one spot in the South Seas, where they were sent after Pearl Harbor.

"A supply road was needed there," he recounts. "Ten Seabees with two Diesel bulldozers were available for the job. The problem was to construct a 10-mile road over a 1,500-foot mountain ridge, through virgin jungle so tangled that a man could not penetrate it. The Seabees split into two gangs, worked 12-hour shifts, and for three days and three nights they kept the two bulldozers going constantly except for five-minute stops between shifts to refuel. Having no spare parts, they improvised repairs. In 72 hours the first jeep went over the road to the new base."

Improvisation is the watchword of the Seabee, and ingenuity is inherent in his character. There isn't a piece of machinery he can't fix. Moreell tells of the radio condenser that went haywire at a remote base. The nearest new parts were 1,000 miles away. Seabee Phillips, chief petty officer and former carpenter, collected tin foil from cigarette packs around the camp, some waxed paper from a fruitcake which a sailor had received from home, and a flatiron. He rolled out alternating layers of tin foil and waxed paper, stuffed them into a discarded beer tin, and made a condenser that worked.

"If a Seabee doesn't know the answer," says Moreell, "he makes up one."

The war had not been under way long when a crew of 40 Seabees were transported to Liberia by Clipper to do a rush job. In six weeks they built 13 lighters, and improvised barges which they made out of pontons equipped with cranes. They were on the job seven days a week, from the crack of dawn until dusk, in steaming tropics where the thermometer climbed to 140 degrees in the sun. And they finished the job on time.

The British had been trying for three months to assemble a crane; the Seabees took over and had the operation ready in a month. They dug one crane out of the weeds where it had lain for nine months. British sailors had discarded an old boat because it wouldn't run; with a screwdriver and pair of pliers, Seabees took the engine apart, cleaned it, installed a handmade condenser, got two cylinders working, and made the boat serve until their equipment arrived. Defective spark plugs, low-grade gasoline, and various other kinds of grief didn't prevent the Seabees from having the landing barges ready when freighters and cargoes began to arrive.

Seabee construction odysseys are also being written on the barren tundras of Alaska and in the rocky Aleutians. There Seabees shared foxholes and dugouts with the soldiers and sailors at Attu; they built barracks at Dutch Harbor when Japanese bombs were falling and the williwaws—the terrific windstorms of that region—ripped apart the Quonset huts as fast as they were bolted together. A williwaw carried one Seabee 30 feet through the air. Another Seabee broke that record with a 40-foot flight, and got a fractured leg. Divers worked in water 108 feet deep and so cold that the oxygen hoses froze. One Seabee diver carried black and blue marks for three weeks as a result of too close acquaintance with an octopus.

It was in the Solomons that the Seabees made history. Four hundred and fifty of them with 250 cases of beer landed on Guadalcanal and went in with the combat troops. Their ages ranged from 17 to 50 years; in the outfit were veterans of the first World War, college students, athletes, and artisans Side by side with the Marines they fought off the Japanese snipers between working shifts, and sometimes spent the entire day hunting the enemy in the jungle. One sharpshooting Seabee got five Japs in a single day.

When equipment failed to arrive, they made the best of what they had. On Island X they erected a sawmill at the jungle's edge in order to build a mahogany bridge that will probably stand for years to come as a permanent memorial of Seabee ingenuity. Another bridge, connecting Henderson and Carney fields, is built on mahogany logs, some of them two feet in diameter, driven 17 feet into the ground. The decking is blood-red planking, 60 feet wide, and can carry two-way traffic. The natural color of the mahogany is blended with the blood spilled by tough Seabees who wouldn't take cover when there was a job to do.

The Navy needed a seaplane ramp built. It was partly a sea-bottom job and there was no diving equipment on hand. That didn't stop the Seabees. Out of gas masks and old inner tubes they manufactured a diving apparatus good enough to enable men to work for hours under water placing concrete slabs on the ocean floor. On the same job, jagged coral chewed up the tires on the earth-moving machinery, so the Seabees mixed palm-tree sawdust with cement, filled the tires with it, and kept the scrapers moving until the ramp was finished.

For five weeks one Seabee crew went without bread until baking ovens arrived; then they taught the natives a few things about cooking and the Marines about trad-

Mud and jungle fail to halt the Navy's Construction Battalions. Here Seabees dump rock from a beach to harden the soft New Guinea soil for road building as others in the outfit erect shelters

Improvisation and ingenuity go hand in hand wherever the Seabees take hold, as this tin roof in the South Pacific shows. It is made of partially flattened gasoline drums

ing. A bottle of Seabee beer brought $5, or a good samurai sword. In British Samoa the natives now do a Seabee version of the Harlem jitterbug dance. One inquisitive Seabee, an ex-Marine with an eye to culture, cultivated the natives and unearthed an original Robert Louis Stevenson manuscript in a house in which the famous author once lived. He added to Stevensoniana the tale of a fireplace where Stevenson, on chill days, swept out the dying embers and sat upon the hot rocks to cook up some of his stories.

Romance also blossomed for some Seabees in Pago Pago, but they soon learned that you can't beat the game even in the South Pacific. The native damsels liked the Seabees even better than they liked the sailors and marines. Marriage was just a financial transaction, however, until the parting of the ways. Then it cost more—a down payment and a monthly allowance. And, to add insult to injury, local custom permitted the girl to marry again and again, drawing "compensation" and "allowances" from several husbands, although the ex-husbands were forced to remain "out of circulation" for the duration of their stay.

When the Guadalcanal gang found that they couldn't build an airfield on a certain spot, they transferred their equipment 18 miles overnight and built Carney Field. At one advance base where Marines were stringing barbed wire along the beaches to forestall Jap landing attempts, an enthusiastic Seabee, intent upon making the job easier for the Marines, shoved coconut tree stumps into the sea. He ventured out too far with his bulldozer and sank into the quicksand. The Marines suggested that the bulldozer be written off as a complete loss. "Hell, no!" said a Seabee officer, "that cat cost Uncle Sam $15,000." From 11 p.m. until daylight, while the tide was out, sweating and swearing Seabees labored until they finally salvaged the machine.

No usable equipment is ever scrapped by the Seabees. On our far-flung battle lines, spare parts are too scarce for anything to be wasted. Japanese dive bombers hammered hell out of a steam shovel on Island X; the cab was *(Continued on page 198)*

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The Seabees Can Do It

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smashed, the controls shot away. To anyone but a Seabee it was not worth scrap iron. A repair shop in the States would have asked two weeks to do the job, yet the Seabees had the shovel rebuilt and operating in two days.

Getting the most out of equipment is a Seabee hobby. On one spot near a Japanese air base, the Seabees built an airfield in record time. Carrying surfacing six miles to the runways, the dump trucks averaged 250 miles per day. Spark plugs were cleaned with blowtorches; air compressors were kept running 23 hours per day, and steam shovels, draglines, and caterpillars worked around the clock. The runway, 6,000 feet long, built across the island with a 16-foot cut through a granite ledge, was finished in 28 days. Ack-ack kept the Japanese dive bombers away until the job was done.

When Seabees were sent to Trinidad their equipment had to be shipped five times, on account of submarines, before it finally arrived. Private contractors were stymied; they said it would take 77 days to finish a job. The Seabees waded in, used their own material, and had the barracks and other buildings up in 27 days. In addition, they completed other unfinished jobs and, for good measure, built themselves a complete theater with stage settings, scenery, and "Earl Carroll" fittings. In another area, when refrigeration units failed to arrive, they improvised two Quonset huts into coolers and saved a huge shipment of fresh meat from spoiling.

Prior to America's entrance into the war, naval bases and other outpost defenses all over the world were being built, under the preparedness and lend-lease programs, by civilian contractors and technicians, and construction gangs composed of American skilled mechanics, electricians, carpenters, welders, plumbers, painters, masons, and engineers. As civilians, however, the workers were often hard to control, and after Pearl Harbor military authorities organized them into a new enlisted arm of Uncle Sam's defense forces.

Credit for the formation of these Construction Battalions, which are commanded by officers of the Navy Civil Engineer Corps, goes to Rear Admiral Moreell. The first regiment was authorized in December, 1941. In a three-week training schedule the recruits absorbed as much military knowledge as could be crammed into them between 6 a.m. and 9:30 p.m. by Marine top sergeants and Navy bosuns' mates and quarter-

(Continued on page 200)

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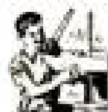

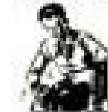

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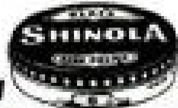

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The Seabees Can Do It

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masters. When the grind was over, they could handle all types of weapons from hand grenades to machine guns. Their job was to build—and having built, to be able to defend. They were ready for anything—salvaging ships or building airfields, sea ramps, docks, camps, jungle trails, and bridges, often doing it under fire and always doing it in a hell of a hurry.

The Seabees represent 60 different skilled trades. The poorest-paid Seabee gets $54 monthly for home service, and $64.80 overseas. A petty officer gets $126 monthly at home and $161 abroad. Fifty percent of the recruits are proving physically acceptable, and training at the $20,000,000 Camp Endicott, in Rhode Island, does the rest.

Today the scrappy yellow-and-blue Seabee emblem—a bee with a spitting machine gun, a wrench, and a hammer clutched in its feet—is found wherever soldiers, sailors, and Marines are fighting. When the combat troops return home, Seabees will still be on the job, salvaging, building, and repairing the ravages of war. Where today they are building to win the war, tomorrow they will be building to win the peace.

Letters About Auto Ailments Win Readers Cash Prizes

ALMOST every conceivable auto ailment from gremlins in the generator to mice on the motor was represented among the scores of entries submitted by readers in our recent contest on unique car troubles. Many of the letters revealed a skill at deductive trouble-shooting worthy of Gus Wilson at his keenest. Here is the list of the winners and their awards:

FIRST PRIZE, $50

Claude W. LaRue, Chicago, Illinois

SECOND PRIZE, $25

Clifford Younger, Glendale, California

Third to seventh prizes, $10 apiece: Carl Wildey, Crown Point, Ind.; Norman Loeber, Van Nuys, Calif.; Lester Standley, Nichols, Conn.; Otto Gruenberger, Milwaukee, Wis.; and Thomas A. Faulkner, St. Paris, Ohio. Eighth to seventeenth prizes, $5 apiece: D. G. Linton, Toronto, Can.; Lieut. William W. Nivin, Camp Davis, N. C.; Horton Hicks, Opheim, Mont.; Eugene G. Glick, Akron, Ohio; Frank J. Meinen, Chippewa Falls, Wis.; Richard S. Bennion, Minneapolis, Minn.; Henry Clark, Jamaica, N. Y.; J. W. Grosdidier, San Diego, Calif.; Lynn C. Watson, Birmingham, Ala.; and Raymond A. Klemmer, Twisp, Wash.

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