Sets, Kits, and Outfits: An Update

By Alan Schlie

This is the first of four articles on sets, kits, and outfits. This article focuses on tools for the construction trades; the second will concentrate on pioneer, mining, and demolition tools; the third on bridging, diving, lighting, and fire-fighting tools; and the fourth article will feature tools for technical specialties.

The successful accomplishment of every mission is linked to one or more sets, kits, or outfits (SKOs) that contain the soldiers' tools of the trade. While the principal "tool" for every soldier is a weapon—rifle, pistol, howitzer, tank—numerous SKOs allow soldiers to perform individual tasks such as assembly, operation, maintenance, repair, packing, or lighting activities. Each weapon has a cleaning "kit," and if it is not used properly, the weapon doesn't function for very long.

Definitions

How do sets, kits, and outfits differ? A *kit* is a collection of tools or components in a small bag or pouch, designed for use and carried by an individual or a crew. For example, weapons have cleaning kits, and a mechanic's toolbox is a kit. A *set* is a collection of tools used by a group of soldiers (a squad, section, or platoon) to perform an organizational mission. A set may include tool kits but not other principal items of equipment that are assigned a line item number (LIN). The squad carpenter's set includes a file kit and a chisel kit. An *outfit* is an assemblage of tools or equipment that may include separately type-classified items as a component. A pneumatic tool outfit contains an air compressor and a trailer (separate major items) and numerous pneumatic hand tools, some of which have individual LIN identification.

The Engineer School is the proponent for 123 SKOs that include tools for topographic support systems, lighting, fixed and float bridging, general and topographic surveying, fire fighting, diving, railway construction and repair, electric power generation and distribution, demolition, mine laying and marking, pipeline construction, drafting, and materials testing. Other SKOs include hydraulic and electric construction tools; carpentry, masonry, electrical, and plumbing tools; and pioneer tools. The school works closely with various agencies in the Army Materiel Command to develop, document, and field SKOs. Rock Island Arsenal is currently fielding the hydraulic electric tool outfit. Tank-Automotive and Armaments Command at Warren, Michigan, is beginning a comprehensive review of all bridge sets. Communications-Electronics Command at Fort Monmouth, New Jersey, is the compiler for light sets and other sets containing electronic components. General Services Administration in Kansas City assembles all SKOs containing construction-related hand tools.

The Organization Branch of the Engineer Directorate of Combat Developments, which is responsible for developing and reviewing SKOs, began a five-year cyclic plan in 1998 to upgrade every SKO. Partnering with a commercial tool supplier has allowed the Engineer School to make several SKOs available for purchase at a time when the pace of unit deployments accelerates and the utilization of state-of-the-art tools speeds mission accomplishment. Field involvement and user testing in this developmental process ensures that tools meet soldiers' needs. In addition, regulatory guidance is being updated to include both generic and specific authorizations. This is necessary to add SKOs that were not included in the regulations and that units were hesitant to request. Regulatory guidance describes the SKOs, lists items needed to support them or that they support, and includes shipping characteristics.

Carpenter's Sets

As a result of the recent review of carpenter's sets, components were realigned, creating a stand-alone squad box of hand tools that is supported by increasingly versatile platoon boxes. The platoon boxes previously included seldom-used tools and extra handles or tools for special applications. Because of the review, some hard-to-maintain tools were replaced by tools that are more commonly used by the construction industry today.

The **Squad Carpenter's Set** still contains nonpowered hand tools. New items include speed squares; heavy-duty tool belts; heavier, waffle-faced framing hammers; shingling

hammers; taping knives; and a nut driver kit. The set weighs 120 pounds and is packed in a 9-cubic-foot transport case.

The **Platoon Carpenter's Set** has saws and drills powered by 18-volt batteries. The set is completely reconfigured with 5 3/8-inch trimcut saws;1/2-inch variable speed, reversing drill/driver/hammers; a reciprocating saw; a jig saw; and numerous drill bits and saw blades. The set weighs 130 pounds and is packed in a 12-cubic-foot transport case.

The **Trailer-Mounted, Woodworking, Base Maintenance Shop Equipment Set** contains electric saws and drills and pneumatic nailers. The set consists of three subkits, each in its own transport and storage box and designed to fit on the trailer with the 10-kilowatt generator.

The *Table Saw and Router Kit* consists of a 10-inch portable table saw and stand; a plunge router; a jig saw; and blades, bits, and extension cords. This kit weighs 300 pounds and is packed in a 20-cubic-foot transport case.

The *Multisaw and Drill Kit* contains a 12-inch miter/compound saw; a 14-inch circular chop saw; a 10 1/4-inch circular saw; a 7 1/2-inch circular saw; a reciprocating saw; 1/2-inch drive variable speed drills; an electric shear/nibbler; and various clamps, blades, bits, countersinks, and circle cutters. This kit weighs 335 pounds and is packed in a 20-cubic-foot transport case.

The *Pneumatic Nailer and Compressor Kit* consists of an electric, 2-horsepower air compressor; two pneumatic framing hammers; nail pullers; 150 feet of air hose; a moisture separator; couplers; and extension cords and nails. This kit weighs 315 pounds and is packed in a 13-cubic-foot transport case.



Platoon Carpenter's Set



Table Saw and Router Kit

The **Mason's and Concrete Finisher's Tool Set** has been reconfigured to support a platoon, with enough individual tools for six soldiers to lay block or brick. Twenty-four feet of interchangeable, sectionalized handles fit the brooms, screeds, and floats, enabling the components to fit into the transport case. The set includes mortar pans, boards, and stands; various floats, edgers, and trowels; knee boards; buckets; a rebar cutter/bender; a side wheel grinder; mason's shovels and hoes; hand pump sprayers; a laser level; and buckets, nozzles, and garden hoses. New additions are a 3-cubic-foot-capacity, gasoline-powered mortar-mixing machine; 16-foot ladders; 12-foot collapsible ladders; 3-foot-high portable stands; and four sections of 5-foot-high by 8-foot-long scaffolding, with walk boards and casters.

The **Electrician's #1 Tool Set** will continue to support squad-level electricians with the latest in protected hand tools. Included in the upgraded set are an 18-volt cordless saw, a drill/driver/hammer, a reciprocating saw, a snake light, a right-angle drill, a tool set with various circuit-testing devices, lockouts and padlocks, work belts, a laser level, fish tape, a bounce light, flood lights, extension cords, and a site box. The normal assortment of saws, chisels, hammers, benders, blades, strippers, sockets, hex keys, and wrenches have been retained in upgraded motif.



Mason's and Concrete Finisher's Tool Set

The **Pipefitter's 1/8-Inch- to 2-Inch-Diameter Pipe Tool Kit and Pipefitter's 2-1/2-Inch- to 4-Inch-Diameter Pipe Tool Kit** have been combined into a single set that is allocated to the platoon. There's an assortment of pipe wrenches, cutters, and reamers; a hand-driven and electric die head-threading machine; a tristand chain vise; powered drain cleaners; recycling oiler; heat gun; propane torch kits; a bounce light; and flood lights. The normal complement of pliers, screwdrivers, pry bars, chisels, levels, work belts, flux, solder, PVC fixative, Teflon tape, extension cords, and job site box are provided. This set is in its final stages of development.

Safety equipment provided in each box includes ultraviolet eye protection, antifog goggles; ground fault circuit interrupter surge protectors; dust masks; and rubber hand guards on chisels. Carpenter hammers and hatchets have steel handles, and handles on other hammers have a black plastic covering over a fiberglass core. This is a recently patented process by NUPLA Corporation that increases comfort and reduces stress to users' arms.

New transport and storage cases represent the latest in manufacturing. The cases are rotationally molded of high-quality polyethylene resins to military specifications. They are resistant to solvents and acids. The color is molded in, so they never need painting. The edges are rounded to reduce the risk of injury. They are stackable and can be loaded or moved by forklift. They are airtight to keep out dirt and moisture, can be decontaminated, and are recyclable. The handles are high-strength, high-density polyethylene that is unaffected by common fuels or solvents. They are recessed and spring loaded to stay out of the way. And they offer a grip that's comfortable and big enough to easily accommodate a gloved hand. Noncorrosive, nonreflective metal catches, hinges, and strikes are placed in recesses to prevent being sheared off during rough handling. Stainless steel inserts are molded in to give catches, hinges and strikes added strength.

The tool sets developed so far have been used successfully during deployments to Mongolia, Bangladesh, Thailand, and Honduras by combat heavy units from Hawaii, Fort Lewis, and Fort Polk. Eventually, the sets will be issued to all units, but for now they must be purchased with operational funds.

The good news is the warranty on the tools. Any tool that becomes inoperable or presents a safety hazard through "fair wear and tear" will be replaced at no charge. GSA and the tool supplier have created 1-800- telephone numbers to facilitate the exchange. The bad news is in fielding the sets. Current regulatory guidance requires units to purchase upgrades to SKOs with their operational funds. The Engineer School has chosen to make the SKOs available for units to purchase until fielding plans and alternate funding programs are developed. National stock numbers (NSN) for the new tool sets will be rolled under the SKO's LIN, because it is the LIN that is authorized in the modified table of organization and equipment, not the NSN. This would eliminate the requirement for units to maintain both boxes.

Summary

A future article will discuss the Pioneer Tool Sets currently being reviewed, and we expect that there will be substantial changes. Input from users is strongly encouraged. Get involved, and make your tool sets work for you.

Send your ideas and comments to the Director of Combat Developments, Engineer Division, Organization Branch (Tom Knotts or Alan Schlie), 320 Engineer Loop, Suite 141, Fort Leonard Wood, Missouri 65473. Telephone numbers are commercial (573) 563-6191, DSN 676-6191, and fax (573) 563-4089/5056. The e-mail address is schliea@wood.army.mil.

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