**Chapter 9: Fire Fighter Tools and Equipment**

**Chief Concepts**

* Tools and equipment are used in almost all fire suppression and rescue operations.
* Hand tools are used to extend or multiply the actions of your body and to increase your effectiveness in performing specific functions.
* Power tools and equipment use an external source of power and are faster and more efficient than hand tools.
* Always wear PPE when using tools or equipment.
* Most tools fit into the following functional categories:
  + Rotating tools—Apply a rotational force to make something turn; used to assemble and diassemble items. Rotating tools include screwdrivers, wrenches, and pliers.
  + Prying or spreading tools—Used to pry and spread. May be as simple as a pry bar or as mechanically complex as a hydraulic spreader. Prying and spreading tools include claw bars, crowbars, and Halligan tools.
  + Pushing or pulling tools—Extend your reach and increase the power you can exert upon an object. Pushing and pulling tools include pike poles, closet hooks, K tools, and ceiling hooks.
  + Striking tools—Used to apply an impact force to an object. Striking tools include hammers, mallets, axes, and spring-loaded centre punches.
  + Cutting tools—Tools with sharp edges that sever objects. Cutting tools include bolt cutters, chainsaws, cutting torches, and handsaws.
  + Multiple-use tools—Designed to perform multiple functions, thereby reducing the total number of tools needed to achieve a goal. Some combination tools can be used to cut, pry, strike, and turn off utilities.
* Forcible entry tools are used to gain entrance to a locked building:
  + Prying tools—Used to break windows or force open doors.
  + Axes—Used to cut through a door or break a window.
  + Sledgehammer—Used to breach walls or break a window.
  + Hammer or mallet—May be used with other tools such as chisels or punches to force entry through windows or doors.
  + Chisel or punch—Used to make small openings through doors or windows.
  + K tool—Provides a “through-the-lock” method of opening a door, minimizing damage to the door.
  + Saws—Can cut openings through obstacles including doors, walls, fences, gates, security bars, and other barriers.
  + Bolt cutter—Used to cut off padlocks or cut through obstacles such as fences.
  + Battering ram—Used to breach walls.
  + Hydraulic door opener—Used to force open a door.
  + Hydraulic rescue tool—Used in a variety of situations to break, breach, or force openings in doors, windows, walls, fences, or gates.
* The interior attack team is responsible for advancing a hose line, finding the fire, and applying water to extinguish the flames. The members of this team need the basic tools that will allow them to reach the seat of the fire:
  + A prying tool, such as a Halligan tool
  + A striking tool, such as a flat-head axe or a sledgehammer
  + A cutting tool, such as an axe
  + A pushing/pulling tool, such as a pike pole
  + A strong hand light or portable light
* A search and rescue team should carry the same basic hand tools as the interior attack team, as well as a short pike pole, thermal imaging devices, portable lights, and life lines.
* An RIT should carry the following special equipment:
  + Thermal imaging device
  + Additional portable lighting
  + Life lines
  + Prying tools
  + Striking tools
  + Cutting tools, including a power saw
  + SCBA or spare air cylinders with RIT UAC
* The objective of ventilation is to provide openings so that fresh air can enter a burning structure and hot gases and products of combustion can escape from the building. The following special equipment is needed for ventilation:
  + Positive-pressure fans
  + Negative-pressure (exhaust) fans
  + Pulling and pushing tools (long pike poles)
  + Cutting tools (power saws and axes)
* The purpose of overhaul is to examine the fire scene carefully and ensure that all hidden fires are extinguished.
* The following tools are used during overhaul operations:
  + Pushing tools (pike poles of varying lengths)
  + Prying tools (Halligan tool)
  + Striking tools (sledgehammer, flat-head axe, hammer, mallet)
  + Cutting tools (axes, power saws)
  + Debris-removal tools (shovels, brooms, rakes, buckets, carryalls)
  + Water-removal equipment (water vacuums)
  + Ventilation equipment (electric-, gas-, or water-powered fans)
  + Portable lighting
  + Sprinkler shut-off tools
  + Thermal imaging devices
* Tool staging often involves placing a tarp or salvage cover on the ground at a designated location and laying out commonly used tools and equipment so that they can be readily accessed.
* All tools and equipment must be properly maintained so that they will be ready for use when they are needed. That means you must keep equipment clean and free from rust, keep cutting blades sharpened, and keep fuel tanks filled.
* Test power equipment and tools frequently, and have them serviced regularly.
* Read and follow the manufacturer’s manuals, and follow all instructions on the care and inspection of power tools and equipment.