Bakersfield Composite Squadron #121

60-Second Safety Advisor #54

Anatomy of a Fire

Fire and smoke causes thousands of deaths and injuries every year. It can also destroy in a few minutes what took a lifetime to build. How can fires be stopped? The answer is control. However, to control fires we must understand them and know how to deal with them.

Fire needs three elements to exist - fuel, oxygen and heat. To understand the relationships, think of each as separate sides of a triangle. Fire needs all three elements in the proper proportions to exist. If one side of the triangle is removed, the fire will go out. For fuel to ignite, oxygen must be present; then heat must be applied until the combustion point is reached. When this point is reached, the fuel will ignite with the oxygen, consuming both fuel and oxygen and giving off heat. If the oxygen is removed, the fire is smothered. If the fuel is removed, there is nothing left to burn (oxygen by itself, will not burn). If the heat is lowered below the combustion point, the fuel and oxygen will not unite and the fire will go out.

Understanding the basic chemistry of fire can help to prevent and to extinguish a fire more safely. For example, if a pan of grease is on fire, deprive it of oxygen by covering it with a lid and smothering the fire, rather than adding water, which would cause a violent eruption of the grease. Remember, prevention is the key!

SAFETY