

Aerial Ladder Glossary of Terms

Accelerator – Device, usually in the form of a foot pedal, used to control the speed of a vehicle by regulating the fuel supply.

Acceptance Test (Proof Test) – Pre-service tests on fire apparatus or equipment performed at the factory or after delivery to assure the purchaser that the apparatus meets bid specifications.

Accessibility – Ability of fire apparatus to get close enough to a building to conduct emergency operations.

Accident – Unplanned, uncontrolled event that results from unsafe acts of people and/or unsafe occupational conditions, either of which can result in injury.

Aerial Apparatus – Firefighting vehicle equipped with a hydraulically operated ladder or elevating platform for the purpose of placing personnel and/or water streams in elevated positions.

Aerial Device – General term used to describe the hydraulically operated ladder or elevating platform attached to a specially designed fire apparatus.

Aerial Ladder – Power operated (usually hydraulically) ladder mounted on a special truck chassis.

Aerial Ladder Platform - Power operated (usually hydraulically) ladder with a passenger-carrying device attached to the end of the ladder.

Aerial Ladder Truss – Assembly of bracing bars or rods in triangular shapes to form a rigid framework for the aerial device.

A-Frame Stabilizer – Stabilizing device that extends at an angle down and away from the chassis of an aerial fire apparatus.

AFFF – abbreviation for Aqueous Film Forming Foam.

Ammeter – Gauge that indicates both the amount of electrical current being drawn from and provided to the vehicle's battery.

Angle of Approach – Angle formed by level ground and a line from the point where the front tires of a vehicle touch the ground to the lowest projection at the front of the apparatus.

Angle of Departure – Angle formed by level ground and a line from the point where the rear tires of a vehicle touch the ground to the lowest projection at the rear of the apparatus.

Anti-Electrocution Platform – Slide out platform mounted beneath the side running board or rear step of an apparatus equipped with an aerial device. This platform is designed to minimize the chance of the driver/operator being electrocuted should the aerial device come in contact with energized electrical wires or equipment.

Apparatus Bay (Apparatus Room) – Area of the fire station where apparatus are parked.

Apparatus Engine – Diesel or gasoline engine that powers the apparatus drive chain and associated fire equipment. Also called the Power Plant.

Aqueous Film Forming Foam – Synthetic foam concentrate that, when combined with water, is a highly effective extinguishing and blanketing agent on hydrocarbon fuels.

ARFF – Acronym for Aircraft Rescue and Fire Fighting.

Articulating Aerial Platform – Aerial device that consists of two or more booms that are attached with hinges and operate in a folding manner. A passenger-carrying platform is attached to the working end of the device.

Articulating Boom – Arm portion of the articulating aerial platform.

Auxiliary Hydraulic Pump – Electrically operated, positive displacement pump used to supply hydraulic oil through the hydraulic device in the event that the main hydraulic pump fails.

Bangor Ladder – See Pole Ladder.

Base Section – See Bed Section.

Basket Stabilizer – Device used to support the platform (basket) portion of an elevating platform device in the stowed position during road travel.

Bed Ladder – Lowest section of a multi-section ladder.

Bed Ladder Pipe – Non-telescoping section of pipe, usually 3 – 3-1/2" in diameter, attached to the underside of the bed section of the aerial ladder for the purpose of deploying an elevated master stream.

Bed Section – Bottom section of an extension ladder. Also called Base Section.

Booster Tank – See Water Tank.

Bourdon Tube – Part of a pressure gauge that has a curved flat tube that changes its curvature as pressure changes. This movement is then transferred mechanically to a pointer on the dial.

Box Stabilizer – Two-piece aerial apparatus stabilization device consisting of an arm that extends directly out from the vehicle and a lifting jack that extends from the end of the extension arm to the ground. Also called an H-Jack.

Brake Limiting Valve – Valve that allows the vehicle's brakes to be adjusted for the current road conditions.

Braking Distance – Distance the vehicle travels from the time that the brakes are applied until it comes to a complete stop.

Bumper – Structure designed to provide front or rear end protection of a vehicle.

Bumper Line – Pre-connected hoseline located on the apparatus bumper.

Cable Hanger – Device used to test the structural strength of aerial ladders.

Cantilever Operation – See Unsupported Tip.

Capacity – Maximum ability of a pump or water distribution system to deliver water.

Cascade Air Cylinders – Large air cylinders that are used to refill smaller SCBA cylinders.

Certification Tests – Pre-service tests for the aerial device, ladder, pump and other equipment which is conducted by an independent testing laboratory prior to delivery of the apparatus. These tests ensure that the apparatus or equipment will perform as expected after being placed in service.

Chamois – Soft pliant leather used for drying furniture and contents or for removing small amounts of water.

Chassis – Frame upon which the body of the fire apparatus rests.

Chauffeur – See Fire Apparatus Driver/Operator.

Chocks – Wooden, plastic or metal blocks constructed to fit the curvature of a tire; placed against the tire to prevent the apparatus from rolling. Also called Wheel Blocks.

Class "A" Foam – Foam specially designed for use on Class "A" combustibles. Class "A" foams are essentially wetting agents that reduce the surface tension of water and allow it to soak into combustible materials easier than plain water.

Commercial Chassis – Truck chassis produced by a commercial truck manufacturer. The chassis is in turn outfitted with a rescue or firefighting body.

Company – Basic firefighting organizational unit consisting of firefighters and apparatus; headed by a company officer.

Company Officer – Individual responsible for command of a company. This designation is not specific to any particular fire department rank (may be a firefighter, lieutenant, captain or chief officer if responsible for command of a single company).

Control Pedestal – Central location for most or all of the aerial device controls. Depending on the type and manufacturer or the apparatus, the control pedestal may be located on the turntable, on the rear or side of the apparatus or in the elevating platform. Also called the Pedestal.

Deck Gun – See Turret Pipe.

Deck Pipe – See Turret Pipe.

Defensive Attack – Exterior Fire Attack with emphasis on exposure protection.

Defensive Mode – Commitment of a fire department's resources to protect exposures when the fire has progressed to a point where an offensive attack is not effective.

Dike – Temporary or permanent barriers that prevent liquids from flowing into certain areas or that direct the flow as desired.

Diverter Valve – See Selector Valve.

Dogs – See Pawls.

Double Acting Hydraulic Cylinder – Hydraulic cylinder capable of transmitting force in only two directions.

Driver/Operator – See Fire Apparatus Driver/Operator.

Driver Reaction Distance – Distance a vehicle travels when a driver is transferring the foot from the accelerator to the brake pedal after perceiving the need for stopping.

Elevated Master Stream – Fire stream in excess of 350 gpm that is deployed from the tip of an aerial device.

Elevating Master Stream Device – See Water Tower.

Elevating Platform – Work platform attached to the end of an articulating or telescoping aerial device.

Elevating Water Device – Articulating or telescoping aerial device added to a fire department pumper to enable the unit to deploy elevated master stream devices. These devices range from 30 to 75 feet in height.

Elevation Cylinder – Hydraulic cylinder used to lift the aerial device from its bed to a working position. Also called the Hoisting Cylinder.

Elevation Loss – See Elevation Pressure.

Elevation Pressure – Gain or loss of pressure in a hoseline due to a change in elevation. Also called Elevation Loss.

Engine – Fire department pumper.

Engineer – See Fire Apparatus Driver/Operator.

Extend – To increase the reach of an extension ladder or aerial device by raising the fly section.

Extension Cylinders – Hydraulic cylinders that control the extension and retraction of the fly sections of an aerial device.

Extension Fly Locks – Devices that prevent the fly sections of a ground or an aerial ladder from retracting unexpectedly.

External Water Supply – (1) Any water supply to a fire pump from a source other than the vehicle's own water tank. (2) Any water supply to an aerial device from a source other than the vehicle's own fire pump.

FDC – Abbreviation for Fire Department Connection.

Fender – Exterior body portion of a vehicle adjacent to the front or rear wheels.

Finished Foam – Completed product after the foam solution reaches the nozzle and air is introduced into the solution (aeration). Also called Foam.

Fire Apparatus – Any fire department emergency vehicle used in fire suppression or other emergency situation.

Fire Apparatus Driver/Operator – Firefighter charged with the responsibility of operating fire apparatus to, during and from the scene of a fire operation or any other time the apparatus is in use. The driver/operator is also responsible for routine maintenance of the apparatus and any equipment carried on the apparatus. This is typically the first step in the fire department promotional chain. Also called Chauffeur or Engineer.

Fire Department Connection – Point at which the fire department can connect into a sprinkler or standpipe system to boost the water flow in the system. This connection consists of a clappered siamese with two or more 2-1/2" intakes or one large diameter (4" or larger) intake. Also called the Fire Department Sprinkler Connection.

Fire Department Pumper – Piece of fire apparatus having a permanently mounted fire pump with a rated discharge capacity of 750 gpm or greater. This apparatus may also carry water, hose, and other portable equipment.

Fire Department Sprinkler Connection – See Fire Department Connection.

Fire Pump – Water pump on a piece of fire apparatus.

Fire Stream – Stream of water or other water based extinguishing agent after it leaves the fire hose and nozzle until it reaches the desired point.

Flowmeter – Mechanical device installed in a discharge line that senses the amount of water flowing and provides a readout in units of gallons per minute.

Foam – Extinguishing agent formed by mixing a foam concentrate with water and aerating the solution for expansion; for use on Class "A" and Class "B" fires. Foam may be protein, synthetic, aqueous film forming, high expansion or alcohol type. Also called Finished Foam.

Foam Blanket – Covering of foam applied over a burning surface to produce a smothering effect; can be used on non-burning surfaces to prevent ignition.

Foam Concentrate – Raw chemical compound solution that is mixed with water and air to produce foam.

Foam Proportioner – Device that injects the correct amount of foam concentrate into the water stream to make the foam solution.

Foam Solution – Mixture of foam concentrate and water after it leaves the proportioner but before it is discharged from the nozzle and air is added to it.

Fog Stream – Water stream of finely divided particles used for fire control.

Friction Loss – Loss of pressure created by the turbulence of water moving against the interior walls of the hose or pipe.

Front Bumper Well – Hose or tool compartment built into the front bumper of a fire apparatus.

Gallon – Unit of liquid measure. One U.S. gallon (3.785 L) has the volume of 231 cubic inches (.785 cubic centimeters). One imperial gallon equals 1.201 U.S. gallons (4.546 L).

Gallons per Minute (gpm) – Unit of volume measurement used in U.S. fire service for water movement.

Gaskets – Rubber seals used in fire hose couplings and pump intakes to prevent the leakage of water at connections.

Gauge – Instrument used to show the operating conditions of an appliance or a piece of equipment.

Generator – Auxiliary electrical power generating device. Portable generators are powered by small gasoline or diesel engines and generally have 110 and/or 220 volt capacities.

Governor – Built-in pressure regulating device to control pump discharge pressure by limiting engine rpm.

GPM – Abbreviation for gallons per minute.

Gradability – Ability of a piece of apparatus to traverse various terrain configurations.

Grade – Natural, unadulterated ground level.

Ground Ladder – Ladders specifically designed for fire service use that are not mechanically or physically attached permanently to fire apparatus and do not require mechanical power from the apparatus for ladder use and operation.

Guy Ropes – Ropes attached between the tip of a raised aerial device and an object on the ground to stabilize the device during high wind conditions; should be used only if approved by the manufacturer of the aerial device.

Handline – Small hoselines (2-1/2" or less) that can be handled and maneuvered without mechanical assistance.

Hazardous Material – Any material that possesses an unreasonable risk to the health and safety of persons and/or the environment if it is not properly controlled during handling, storage, manufacture, processing packaging, use, disposal, or transportation.

Head – Water pressure due to elevation. For every 1 foot increase in elevation, 0.434 psi is gained. Also called Head Pressure.

Head Pressure – See Head.

Heavy Stream – See Master Stream.

H-Jack – See Box Stabilizer.

Hoisting Cylinder – See Elevation Cylinder.

Hold-Down Locks – Locks that secure the aerial device in its cradle during road travel.

Hose Bed – Main hose-carrying area of a pumper or other piece of apparatus designed for carrying hose. Also called hose body.

Hose Body – Hose Bed

Hose Clamp – Mechanical or hydraulic device used to compress fire hose to stop the flow of water.

Jack Pad – See Stabilizer Pad.

Jack Plate – See Stabilizer Pad.

Jump Seat – Seats on a fire apparatus that are behind the front seats.

Kilopascal (kPa) – Metric unit of measure for pressure; 1 psi = 6.895 kPa, 1 kPa = 0.1450 psi.

Kink – Severe bend in a hoseline that increases friction loss and reduces the flow of water through the hose.

Ladder Company – Group of firefighters assigned to a fire department aerial apparatus who are primarily responsible for search and rescue, ventilation, salvage and overhaul, forcible entry and other fireground support functions. Also called Truck Company.

Ladder Locks – See Pawls.

Ladder Pipe – Master stream nozzle mounted on the fly of an aerial ladder.

Large Diameter Hose (LDH) – Relay-supply hose of 3-1/2 to 6 inches in diameter; used to move large volumes of water quickly with a minimum number of pumpers and personnel.

Level I Staging – Used on all multiple-company emergency responses. The first-arriving vehicles of each type proceed directly to the scene, and the others stand by a block or two from the scene and await orders.

Level II Staging – Used on large-scale incidents where greater alarm companies are responding. These companies are sent to a specified location to await assignment.

Life Safety Harness – Any harness that meets the requirements of NFPA 1983, *Standard on Fire Service Life Safety Rope, and System Components*.

Load Testing – Aerial device test intended to determine whether or not the device is capable of safely carrying its rated weight capacity.

Lugging – Condition that occurs when the throttle application is greater than necessary for a given set of conditions. It may result in an excessive amount of carbon particles issuing from the exhaust, oil dilution, and additional fuel consumption. Lugging can be eliminated by using a lower gear and proper shifting techniques.

Maintenance – Keeping equipment or apparatus in a state of usefulness or readiness.

Manifold – (1) Hose appliance that divides one larger hoseline into three or more small hoselines. Also called portable hydrant. (2) Hose appliance that combines three or more smaller lines into one larger hoseline. (3) Top portion of the pump casing.

Manual Stabilizer – Manually deployed stabilizing device for aerial apparatus that consists of an extension arm with a jack attached to the end of it.

Manufacturer's Tests – Fire pump or aerial device tests performed by the manufacturer prior to the delivery of the apparatus.

Mars Light – Single beam, oscillating warning light.

Master Stream – Any of a variety of heavy, large-caliber water streams; usually supplied by siamesing two or more hoselines into a manifold device delivering 350 gpm or more. Also called Heavy Stream.

Master Stream Nozzle – Nozzle capable of flowing in excess of 350 gpm.

Mattydale Hose Bed – See Transverse Hose Bed.

MDH – Medium Diameter Hose.

Medium Diameter Hose – 2-1/2 or 3 inch hose that is used for both fire fighting attack and relay-supply purposes.

National Fire Protection Association (NFPA) – Nonprofit educational and technical association located in Quincy, Massachusetts devoted to protecting life and property from fire by developing fire protection standards and educating the public.

Nonconforming Apparatus – Apparatus that does not conform to the standards set forth by NFPA standards.

Nondestructive Testing – Method of testing metal objects that does not subject them to stress-related damage.

Nozzle – Appliance on the discharge end of a hoseline that forms a fire stream of definite shape, volume, and direction.

Nozzle Pressure – Velocity pressure at which water is discharged from the nozzle.

Nozzle Reaction – Counterforce directed against a person holding a nozzle or a device holding a nozzle by the velocity of water being discharged.

Offensive Fire Attack – Aggressive fire attack that is intended to stop the fire at its current location. Also called Offensive Mode Attack.

Offensive Mode Attack – See Offensive Fire Attack.

Outrigger – See Stabilizer

Overthrottling – Process of injecting or supplying the diesel engine with more fuel than can be burned.

Parapet – (1) Extension of the exterior walls above the roof. (2) Any required fire walls surrounding or dividing a roof or surrounding roof opening such as light/ventilation shafts.

Pattern – Shape of the water stream as it is discharged from a fog nozzle.

Pawls – Devices attached to the inside of the beams on fly sections used to hold the fly section in place after it has been extended. Also called Ladder Locks.

PDP – Abbreviation for Pump Discharge Pressure.

Pedestal – See Control Pedestal.

Piercing Nozzle – Nozzle with an angled, case-hardened steel tip that can be driven through a wall, roof, or ceiling to extinguish hidden fire. Also called Puncture Nozzle.

Pitot Tube – Instrument containing a Bourdon Tube that is inserted into a stream of water to measure the velocity pressure of the stream. The gauge reads in units of pounds per square inch (psi) or kilopascals (kPa).

Playpipe – Base part of a three-part nozzle that extends from the hose coupling to the shutoff.

Pole Ladder – Large extension ladder that requires tormentor poles to steady the ladder as it is raised and lowered. Also called Bangor Ladder.

Portable Equipment – Those items carried on the fire apparatus that are not permanently attached to or part of the apparatus.

Portable Hydrant – See manifold.

Portable Ladder Pipe – Portable, elevated master stream device clamped to the top two rungs of the aerial ladder when needed and supplied by a 3 or 3-1/2 inch fire hose.

Positive Displacement Pumps – Self-priming pump that moves a given amount of water or hydraulic oil through the pump chamber with each stroke or rotation. These pumps are used for hydraulic pumps on aerial device hydraulic systems and for priming pumps on centrifugal fire pumps.

Pounds per Square Inch (psi) – U.S. unit for measuring pressure. Its metric equivalent is kilopascals.

Power Plant – See Apparatus Engine.

Power Take-Off (PTO) – Rotating shaft that transfers power from the engine to auxiliary equipment.

Preconnect – (1) Attack hose connected to a discharge when the hose is loaded; this shortens the time it takes to deploy the hose for firefighting. (2) Soft intake hose that is carried connected to the pump intake.

Prefire Inspection – See Pre-Incident Planning.

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Pre-Incident Planning – Act of preparing to handle an incident at a particular location or a particular type of incident before an incident occurs.

Preservice Tests – Tests performed on fire pumps or aerial devices before they are placed in service. These tests are broken down into manufacturer's tests, certification tests and acceptance tests.

Preplanning – See Pre-Incident Planning.

Pressure – Force per unit area measured in pounds per square inch (psi) or kilopascals (kPa).

Pressure Governor – Pressure control device that controls engine speed and therefore eliminates hazardous conditions that result from excessive pressures.

Proportioner – Device used to introduce the correct amount of foam concentrate into a stream of water.

PSI – Abbreviation for Pounds per Square Inch.

PSIG – Abbreviation for Pounds per Square Inch Gauge.

PTO – Abbreviation for Power Take Off.

Pump Can – Water filled pump-type extinguisher. Also called Pump Tank.

Pump Discharge Pressure (PDP) – Actual velocity pressure (measured in psi) of the water as it leaves the pump and enters the hoseline.

Pumping Apparatus – Fire department apparatus that has the primary responsibility to pump water.

Pump Operator – Firefighter charged with operating the pump and determining the pressures required to operate it efficiently.

Pump Panel – Instrument and control panel located on the pumper.

Pump Tank – See Pump Can.

Puncture Nozzle – See Piercing Nozzle.

Quad – Four-way combination fire apparatus; sometimes referred to as quadruple combination. A quad combines the water tank, pump and hose of a pumper with the ground ladder complement of a truck company.

Quint – Fire apparatus equipped with a fire pump, water tank, ground ladders, and hose bed in addition to the aerial ladder.

Radiated heat – See Radiation.

Radiation – Transfer of heat through light by electromagnetic waves. Also called Radiated Heat.

Relay – Use of two or more pumpers to move water distances that would require excessive pressure if only one pumper was employed.

Relay Operation – Using two or more pumpers to move water over a long distance by operating in series. Water discharged from one pumper flows through hoses to the inlet of the next pumper, and so on. Also called Relay Pumping.

Relief Valve – Pressure control device designed to eliminate hazardous conditions resulting from excessive pressures by allowing this pressure to bypass to the intake side of the pump.

Road Tests – Pre-service apparatus maneuverability tests designed to determine the road-worthiness of a new vehicle.

Roof Ladder – Straight ladder with folding hooks at the top end. The hooks anchor the ladder over the roof ridge.

Rotary Gear Positive Displacement Pump – Type of positive displacement pump commonly used in hydraulic systems. The pump imparts pressure on the hydraulic fluid by having two intermeshing rotary gears that force the supply of hydraulic oil into the pump casing chamber.

Rotary Vane Pump – Type of positive displacement pump commonly used in hydraulic systems. A rotor with attached vanes is mounted off-center inside the pump housing. Pressure is imparted in the water as the space between the rotor and the pump housing wall decreases.

Rung – The step portion of a ladder running from beam to beam.

Safety Bar – Hinged bar designed to protect firefighters from falling out of the open jump seat area of a fire apparatus.

Safety Gates – Protective guards that are placed over the apparatus jump seat opening to prevent firefighters from falling off the apparatus.

Selector Valve – Three-way valve on a fire department aerial apparatus that directs oil to either stabilizer control valves or the aerial device control valves. Also called Diverter Valve.

Service Records – Detailed description of maintenance and repair work for a particular apparatus or piece of equipment.

Service Test – Series of tests performed on apparatus and equipment in order to ensure operational readiness of the unit. These tests should be performed at least yearly or whenever a piece of apparatus or equipment has undergone extensive repair.

Siamese – Hose appliance used to combine two or more hoselines into one. The siamese generally has female inlets and a male outlet and is commonly used to supply the hose leading to a ladder pipe.

Single-Acting Hydraulic Cylinder – Hydraulic cylinder capable of transmitting force in only one direction.

Small Diameter Hose (SDH) – Hose of $\frac{3}{4}$ to 2 inches in diameter; used in firefighting.

Solid Stream – Hose stream that stays together as a solid mass as opposed to a fog or spray stream.

SOP – Standard Operating Procedure.

Speedometer – Dashboard gauge that measures the speed at which a vehicle is traveling.

Spotter – Firefighter who walks behind a backing apparatus to provide guidance for the driver/operator.

Spotting – Positioning the apparatus in a location that provides the utmost efficiency for operating on the fireground.

Spray Curtain Nozzle – Fog nozzle mounted on the underside of an elevating platform to provide a protective shield against the convected heat for firefighters operating in the platform.

Stabilizer – Devices that transfer the center of gravity of the apparatus and prevent it from tipping as the aerial device is extended away from the center line of the chassis. Also called Outrigger.

Stabilizer Boot – Flat metal plate attached to the bottom of the aerial apparatus stabilizer to provide firm footing on the stabilizing surface.

Stabilizer Pad – Unattached, flat metal plate that is larger in area than the stabilizer boot. The stabilizer pad is placed on the ground beneath the intended resting place of the stabilizer boot to provide better weight distribution. Also called Jack Pad or Jack Plate.

Staging – Process by which non-committed units responding to a fire or other emergency incident are stopped at a location away from the fire scene to await assignment.

Staging Area – (1) Location away from the emergency scene where units assemble and wait until they are assigned a position on the emergency scene. (2) Location on scene where tools and personnel are assembled before being used or assigned.

Standard Apparatus – Apparatus that conforms to the standards set forth by the NFPA standards on fire apparatus design.

Standard Operating Procedure (SOP) – Standard method in which a fire department carries out routine functions. Usually these procedures are written and all firefighters should be well versed in their content.

Standpipe System – Wet or dry system of pipes in a large single or multi-story building with fire hose outlets connected to them. The system is used to provide for quick deployment of hoselines during firefighting operations.

Tachometer – Dashboard or pump panel gauge that measures the engine speed in revolutions per minute (rpm).

Tailboard – Back step of the fire apparatus.

Tandem – Two-axle rear suspension.

Telescoping Aerial Platform Apparatus – Type of aerial apparatus equipped with an elevating platform; also equipped with piping systems and nozzles for elevated master stream operations. These apparatus are not meant to be climbed and are equipped with a small ladder that is to be used only for escape from the platform in the event of an emergency.

Telescoping Boom – Aerial device raised and extended via sections that slide within each other.

Third Party Testing Agency – Independent agency hired to perform nonbiased testing on a specific piece of apparatus.

Throttle Control – Device that controls the engine speed.

Tiller – Rear steering mechanism on a tractor-trailer aerial ladder truck.

Tillerman – See Tiller Operator.

Tiller Operator – Driver/operator of the trailer section of a tractor-tiller aerial ladder apparatus. Also called Tillerman.

Torque Box – Structural housing that contains the rotational system for the aerial device between the apparatus chassis frame rails and the turntable.

Torque Wrench – Specially designed wrench that may be set to produce a particular amount of torque on a bolt.

Total Stopping Distance – Sum of the driver/operator reaction distance and the vehicle braking distance.

Tower Ladder – Term used to describe a telescoping aerial platform fire apparatus.

Traction – Act of exerting a pulling force.

Tractor-Tiller Aerial Ladder – Aerial ladder apparatus that consists of a tractor power unit and a trailer (tiller) section that contains the aerial ladder, ground ladders, and equipment storage areas. The trailer section is steered independently of the tractor by a person called the tiller operator.

Traffic Control Device – Mechanical device that automatically changes traffic signal lights to favor the path of responding emergency apparatus.

Transverse Hose Bed – Hose bed that lies across the pumper body at a right angle to the main hose bed; designed to deploy preconnected attack hose to the sides of the pumper. Also called the Mattydale Hose Bed.

Trash Line – Small diameter, preconnected hoseline intended to be used for trash or other small exterior fires.

Triple-Combination Pumper – Fire department pumper that carries a fire pump, hose and a water tank.

Truck – (1) Self-propelled vehicle carrying its load on its wheels; primarily designed for transportation of property rather than passengers. (2) Slang term for an aerial apparatus (3) Ladder truck.

Truck Company – See Ladder Company.

Truss Construction Ladder – Aerial device boom or ladder sections that are constructed of trusses metal pieces.

Turntable – Rotational structural component of the aerial device. Its primary function is to provide continuous rotation on a horizontal plane.

Turret Pipe – Large master stream appliance mounted on a pumper or trailer and connected directly to a pump. Also called Deck Gun or Deck Pipe.

UL – Abbreviation for Underwriters Laboratories, Inc.

Ultrasonic Inspection – Nondestructive method of aerial device testing in which ultrasonic vibrations are injected into the aerial device. Deviance in the return of the waves is an indication that flaws exist.

Undercarriage – Portion of a vehicle's frame that is located beneath the vehicle.

Underwriters Laboratories – Independent fire research and testing laboratory.

Unsupported Tip – Operation of an aerial device with the tip of the device or the platform in the air and not resting on another object. Also called Cantilever Operation.

Valve – Mechanical device with a passageway that controls the flow of a liquid or gas.

Voltmeter – Device used for measuring the voltage existing in an electrical system.

Warning Devices – Any audible or visual devices, such as flashing lights, sirens, horns, or bells, added to an emergency vehicle to gain the attention of drivers or other vehicles.

Warning Lights – Lights on the apparatus designed to attract the attention of other motorists.

Water Curtain – Fan-shaped stream of water discharged from beneath an elevating platform to absorb radiant heat and protect the occupants of the platform.

Water Hammer – Force created by the rapid deceleration of water. It generally results from closing a valve or nozzle too quickly.

Water Supply – Any source of water available for use in firefighting operations.

Water Tank – Water storage receptacle carried directly on the fire apparatus. NFPA 1901 specifies that Class "A" pumpers must carry at least 500 gallons. Also called Booster Tank.

Water Tower – Aerial device primarily intended for deploying an elevated stream. Not generally intended for climbing operations. Also known as an Elevated Master Stream Device.

Waterway – Path through which water flows within a hose or pipe.

Wheel Blocks – See Chocks.

Winch – Pulling tool that consists of a length of steel chain or cable wrapped around a motor driven drum. These are most commonly attached to the front or rear of a vehicle.