

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J656

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AUTOMOTIVE BRAKE DEFINITIONS AND NOMENCLATURE

Foreword—This Document has also changed to comply with the new SAE Technical Standards Board Format.

- 1. Scope**—This SAE Recommended Practice identifies and defines terms specifically related to brake systems.
- 2. References**—There are no referenced publications specified herein.
- 3. Definitions**
 - 3.1 Accumulator**— A storage container for pressurized fluid.
 - 3.2 Air-Assisted Hydraulic Brake System**—A hydraulic type brake system actuated by an air hydraulic power unit.
 - 3.3 Air Brake Low Pressure Indicator**—A unit or combination of units which provides a visible and/or audible signal whenever the stored air in one of the circuits of an air brake system is below a predetermined value.
 - 3.4 Air Brake Low Warning Switch**—A device used to complete an electrical circuit to an air brake low pressure indicator.
 - 3.5 Air Brake Pressure Protection Valve**—A unit which prevents the uncontrolled depletion of pressure in one part of an air brake system when pressure drops below a pre-selected level in another part of the system.
 - 3.6 Air Brake Reservoir**—A storage tank for compressed air.
 - 3.7 Air Brake System**—A brake system which utilizes air pressure for operation and control.
 - 3.8 Air Brake Trailer Hand Control Valve**—A hand operated valve for independent graduated control of the trailer service brake system.
 - 3.9 Air Compression Governor**—A device which controls the compression of air within a pre-selected range of pressure.
 - 3.10 Air Hydraulic Brake Power Assist Unit**—A unit consisting of air cylinder or chamber, hydraulic cylinder(s) and control valve in which driver effort is combined with force from the cylinder piston or chamber diaphragm to displace fluid under pressure for actuation of the brake(s).

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- 3.11 **Air Over Hydraulic Brake System**—See Air-Assisted Hydraulic Brake System.
- 3.12 **Air-Powered Master Cylinder**—A brake master cylinder actuated by an air brake cylinder or chamber.
- 3.13 **Air Pressure Reducing Valve**—A unit which delivers a pre-selected output pressure.
- 3.14 **Air-to-Vacuum Conversion Relay Valve**—: A unit which converts air signals to related vacuum signals.
- 3.15 **Air Vacuum Relay Valve**—A secondary control unit operated by the control vacuum signal to regulate supply vacuum to the service brake actuators.
- 3.16 **Antiskid Brake System**—A misnomer. See "Wheel Slip Brake Control System."
- 3.17 **Auxiliary Control Valve**—A unit which controls pressure in various portions of the brake system.
- 3.18 **Brake**—An energy conversion mechanism used to retard, stop, or hold a vehicle.
- 3.19 **Brake Actuator**—A unit which converts hydraulic pressure, air pressure, vacuum, electrical current or other forms of energy to a force which applies a brake.
- 3.20 **Brake Assembly**—An assembly of the non-rotational components of a brake including its mechanism for development of friction forces.
- 3.21 **Brake Booster**—A device utilizing a supplementary power source to reduce pedal force in a hydraulic brake system.
- 3.22 **Brake Chamber**—A unit which a diaphragm converts pressure to mechanical force for actuation of a brake.
- 3.23 **Brake Check Valve - Normally Closed**—See "Check Valve."
- 3.24 **Brake Check Valve - Normally Open**—See "Check Valve."
- 3.25 **Brake Cylinder**—A unit in which a piston converts pressure to mechanical force for actuation of a brake.
- 3.26 **Brake Disc**—The parallel-faced, circular, rotational member of a brake acted upon by the friction material.
- 3.27 **Brake Drum**—A cylindrical, rotational member of a brake acted upon by the friction material.
- 3.28 **Brake Effectiveness Buildup**—A temporary increase in brake effectiveness during a stop or snub.
- 3.29 **Brake Fluid**—The substance, generally in liquid form, used to transmit hydraulic pressure within a brake system.
- 3.30 **Brake Fluid Level Indicator**—A unit in a hydraulic brake system which indicates brake fluid level. See also "Brake System Warning Lamp."
- 3.31 **Brake Fluid Level Warning Switch Assembly**—A unit used to actuate a warning device indicating a reservoir fluid level lower than a preset value.
- 3.32 **Brake Hose**—A flexible conductor for the transmission of fluid pressure in the brake system.
- 3.33 **Brake Hose Coupler**—A separable mechanical connector for a brake hose between the towing and the towed vehicle.

- 3.34 Brake Lever or Handle**—A hand-operated lever or handle which, when actuated, causes the brake(s) to be applied.
- 3.35 Brake Lining Pad**—A friction material in a plane form. Usual application is on a disc brake shoe.
- 3.36 Brake Lining Wear Sensor**—A unit used to actuate a warning device indicating a brake lining thickness less than a preset value.
- 3.37 Brake Pedal**—A foot-operated lever which, when actuated, causes the brake(s) to be applied.
- 3.38 Brake Power Assist**—A device installed in a hydraulic brake system that reduces pedal effort.
- 3.39 Brake Retarder**—An auxiliary energy conversion system used to supplement the service brake system on a moving vehicle.
- 3.40 Brake Shoe**—The member which applies the mechanical force of brake application to the brake lining.
- 3.41 Brake Snubbing Time**—Time elapsed during a brake snub from the start of brake application to the instant the lower speed value is reached.
- 3.42 Brake Snub**—The act of retarding a motor vehicle between two positive speed values by the use of a brake system.
- 3.43 Brake Stopping Distance**—Distance traveled by a motor vehicle from the start of a brake application to the point at which the motor vehicle reaches a complete stop.
- 3.44 Brake Stopping Time**—Time elapsed by a motor vehicle from the start of a brake application to the instant the motor vehicle reaches a complete stop.
- 3.45 Brake System**—A combination of one or more brakes and the related means of operation and control.
- 3.46 Brake System Actuation Distance**—The distance traveled between the start of brake application and the instant at which a specified brake system pressure is obtained.
- 3.47 Brake System Actuating Time**—The time elapsed between the start of brake application and the instant at which a specified brake system pressure is obtained.
- 3.48 Brake System Warning Lamp**—A lamp which is actuated to indicate brake system condition.
- 3.49 Brake Force Ratio**—The sum of the retarding forces developed by each braked wheel divided by the "as tested" gross weight of the vehicle or combination.
- 3.50 Check Valve**—A unit which is used to isolate automatically one part of the brake fluid system from another part.
- 3.50.1 CLOSED TYPE**—A valve which allows fluid flow in one direction only.
- 3.50.2 OPEN TYPE**—A valve, normally open to fluid flow in both directions, which closes when fluid flow in one direction exceeds a predetermined value.
- 3.50.3 RESIDUAL BRAKE PRESSURE TYPE**—A two-function unit in which one function either restricts fluid from the brake wheel cylinder(s) or retains a pressure in the brake wheel cylinder(s) at the time of brake release, and in which the other function permits fluid compensation for fluid volume changes.