The following is a list of terms commonly used when discussing suspension. While these terms may have definitions in addition to those listed herein, the following definitions are the most applicable when discussing the theory and function of shocks and suspension forks.

THEORY AND TECHNOLOGY

Aeration - Refers to an area inside of a fluid column occupied by a gas such as air or nitrogen. In a damping system, when the damper is cycled, gas resting on top of the oil column is pulled and dispersed into the oil in the form of bubbles, creating a foam. If allowed to rest, eventually the bubbles will rise to the top, separating the gas from the fluid.

Air spring - A system that utilizes air pressure to provide resistance against compression force

All Travel ® - RockShox designed travel adjustment system that utilizes specific internal spacer configurations to set allowable stroke distance

Blow off - In a hydraulic or pneumatic system, the opening of a valve at a predetermined pressure threshold

Bottom out - Point of travel at which a shock is fully compressed

Breakaway - Refers to the amount of force required to initiate stroke

Bypass - Transfer of fluid or gas from an area of high pressure to an area of low pressure

Cavitation - Formation of vapor bubbles in a fluid by way of high velocity fluid movement and pressure change.

Check valve - Portion of a valve system designed to allow fluid or air to flow freely in one direction while limiting flow in the other direction

Coil spring - A type of mechanical spring that utilizes material rolled onto a coil

Coil bind - On a coil spring, the point at which coils come in contact with each other during compression of the spring. Once coil bind occurs, further compression is not possible.

Compression - Actuation of the main/positive portion of the shock's stroke

Damper/damping system - Assembly of components designed to facilitate damping

Damping - Control of the speed at which a shock moves through its stroke. Usually achieved through manipulation of fluid or gas displacement

Dual Air ® - RockShox designed spring system that utilizes an air spring for the main/positive spring as well as the opposing/negative spring

Elastomer - Synthetic, elastic material commonly used as a spring medium

Emulsification (Emulsion) - A process that produces a permanent suspension of one substance into another. Particles of the suspended substance are so small that they cannot be moved by gravity or filtered out.

Fade - Performance loss of a damper due to the affects of heat build up

Hydracoil/Hydracoil 2 ® - RockShox designed open bath damping system

Hydraulic lock (Hydralock) - Refers to the inability of a shock to cycle through its stroke due to the failure of fluid to be able to circulate freely within the system

Lock out - Intentional restriction of shock movement through it's stroke

Main spring - Spring used to provide the majority of resistance against compression force in a multiple spring system

Micro Cellular Urethane (MCU) - Synthetic, elastic material commonly used as a spring medium. Exhibits some damping characteristics

Negative spring - Any spring built into a multiple spring system that opposing the main spring

Oil - Most commonly used fluid medium in hydraulic systems

Oil weight - see Viscosity

Open bath - Refers to a damper system that shares damping fluid with the open cavity between the upper and

lower leg assemblies. The fluid acts as a damping medium as well as a lubricant

Pre-load - Refers to the intentional compression of a spring prior to stroke, resulting in an increase of force required to initiate stroke

Pure ® - RockShox designed damping system that incorporates separate adjustable compression (with lockout) and rebound circuits. Utilizes a coil sprung internal floating piston to separate air from oil.

Pure Delite ® - Variation of the RockShox designed Pure© damping system. Compression and lockout circuit is removed, reducing weight. Utilizes an infinitely adjustable air spring instead of a coil spring to pressurize the floating piston.

Rebound - Actuation of a shock's return stroke once it has been has been compressed and released

Sag - Measurement of the amount of stroke consumed solely by sprung weight

Seal - Any component designed to isolate one area from another and restrict movement of material between the isolated areas

Shock - A basic suspension device. Typically designed to be compressed under pressure and decompress once pressure is relieved. Many different styles, configurations, and features are available to adapt shocks to specific tasks.

Speed sensitive damping - Refers to damping effect of oil flow at different stroke speeds. Mechanical checks can be built into a damping system to regulate the flow of the oil based on the speed of the stroke.

Spiking - Sudden increase of fluid pressure resulting from a low flow to velocity ratio, restricting shock movement.

Spring - Any device that will yield when pressurized, then return to its original state when pressure is released.

Spring curve - Measurement of the force/distance ratio of a spring as it is compressed. The more a spring is compressed, the more force is required to compress it. Example - A 40 in-lb coil spring requires 40 lbs of force to compress 1 inch, then 80lbs for 2 inches, 120 lbs for 3 inches, etc.

Spring rate - Refers to the potential resistance exerted by a spring, usually measured in inch-pounds or Neuton-meters. Example - A 40 in-lb spring requires 40 lbs of force to compress 1 inch.

Sprung weight - Gravitational effect of any mass mounted to or resting on a shock and exerting pressure against the spring

Stroke - Measure of the total distance that a shock can be actuated

Top out - Point of travel at which a shock is fully extended, determined by mechanical limits of the shock

Travel - Refers to the amount of possible vertical wheel movement. Determined by shock stroke and any lever system coupled with the stroke.

Tullio ® - RockShox designed quick release through-axle system. The name is homage to the inventor of the original bicycle wheel quick release system, Tullio Campagnolo.

Unsprung mass - Any material that is mounted directly or indirectly to a shock, but does not exert any force against the spring. In the case of a bicycle with front suspension, this would essentially be the front wheel, fork's lower casting, and front braking system.

U-Turn ® - RockShox designed spring system, which allows for external travel change with automatic spring rate adjustment

Valve - Any device that allows for introduction, retention, and evacuation of fluid or gas to, from, or through a system

Vari-travel - RockShox designed internally adjustable travel system

Viscosity - Measurement of fluid density or thickness

COMPONENT

Body - Portion of a rear shock that houses the damper

Boot - Type of external seal covering portion of the upper tube between the lower leg assembly and the crown. Designed to compress upon shock actuation

Brake arch - Portion of a fork's lower leg assembly that couples the two legs. Can be bolted on or cast as part of the whole assembly

Brake post/brake boss - Part of the lower leg assembly onto which any style of non-disc specific brake calipers can be mounted

Bumper - Soft limiter/stop used to cushion impact of components against one another

Bushing - A bearing, usually composed of friction resistant, non-abrasive material, mounted internally. Used to separate moving parts from other moving or stationary parts

Cable hanger - Portion of a lower leg assembly that is used as a cable housing stop for cantilever style brakes

Cartridge - All inclusive, self contained damping system, usually available as one complete component

Collar - Part of a shock that assists with coil spring retention. Available in threaded or stationary configurations.

Crown - Part of a fork that couples the steerer tube and the upper tubes.

Disc brake tabs - Portion of the lower leg assembly onto which a disc specific caliper can be mounted. Configuration may vary from standard to non-standard styles.

Dropout - Portion of a lower leg assembly into which a wheel hub axle is mounted

Eyelet - Part of a rear shock that, coupled with a bushing and mount hardware, mounts to a bicycle frame. Usually designed to pivot as necessary during actuation

Glide ring - A bearing, usually composed of friction resistant, non-abrasive material, usually mounted onto or around a part, used to separate moving parts from other moving or stationary parts

Mount hardware - Devices used to couple shock eyelet bushings with the frame shock mounts. Different sizes adapt to different shock and frame dimensions.

Piston, air - Sealed, moving platform, usually coupled with a plunger, used to separate an air chamber from the rest of the shock

Piston, damping - Part of a damper that contains predetermined flow paths (ports or orifices) through which oil is required to flow, often at a regulated rate

Piston, floating - Part of a damping system that compensates for fluid displacement during stroke. Typically used to separate oil column from gas pocket or spring, a floating piston eliminates aeration and compensates for oil expansion at higher temperatures.

Plunger - A device used to couple lower legs with the upper chassis. Other components, such as a damping piston, damping circuit, air piston, etc. may also be affixed, depending on style or application

Remote - Any device designed to place adjustment of a system feature in a location more easily accessible than if it were mounted directly to the system

Reservoir - Part of a shock that contains the charged, independent floating piston. Location and integration may vary depending on the system design

Seal head - Part of a damper that closes and seals the system

Shaft - Part of a shock that couples damping circuitry, eyelet, seal head, and shock body

Stanchion - see Upper tube

Steerer tube - Part of a fork's upper chassis that couples the crown with the head tube, headset, and stem of a bicycle

Through axle - Large, usually hollow front wheel hub axle. Provides more rigid wheel/fork coupling and is quicker to remove from the hub than a conventional hub axle

Top cap - Part of a suspension fork that interfaces with the crown and upper tube. Usually sealed, it can be used to close a spring system and often provides adjustment of the spring or damping systems.

Trunnion - Shock mounting piece used on specific rear suspension designs. Typically threaded onto a shock body to allow for variable positioning

Upper tube - Part of a fork's upper chassis that is coupled with the crown and houses any combination of spring, damper, plunger, and base assemblies

