



SURFACE VEHICLE INFORMATION REPORT

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Pneumatic Spring Terminology

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1. **Scope**—This pneumatic spring terminology has been developed to assist engineers and designers in the preparation of specifications and descriptive material relating to pneumatic springs and their components. It does not include gas supply or control systems.
2. **References**—There are no referenced publications specified herein.
3. **Pneumatic Spring**—A spring which utilizes the elasticity of a confined gas as the energy medium.
4. **General Terms**
 - 4.1 **Flexible Member**—The flexible portion of the pneumatic spring.
 - 4.1.1 **BEAD**—That portion of the flexible member adjacent to any attachment part which provides an anchor and a gas seal.

NOTE—The bead can be classified as either mechanically fastened, which produces a seal through a positive clamping medium, or self-sealing, which produces a seal through gas pressure and/or bead displacement.
 - 4.1.2 **REINFORCEMENT**—A structure of cord built into the flexible member to control its shape and strengthen its wall structure against internal gas pressure.
 - 4.1.2.1 **Cord Angle**—The acute angle between a plane through the axial centerline of the flexible member and the centerline of any cord. This angle can pertain to the as-molded shape of the flexible member and will vary according to position of measurement and cross-sectional shape. It also can pertain to inflated shape and will vary according to position of measurement, cross-sectional shape, and inflation pressure.

NOTE—The cord angle is a determining factor of the inflated shape of the flexible member, and may affect the load-deflection characteristics of the assembly. Since it does not totally govern the load-deflection characteristics, cord angle is not usually specified.
 - 4.1.3 **COVER**—The external layer of elastic substance which protects the reinforcement against abrasion, weathering, or other undesirable effects.