AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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WASHERS, SPRING LOCK

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. TYPE: Carbon steel, plain helical lock washers.

3. COMPOSITION:

		Check Analysis	
		Under Min or	Over Max
Carbon	0.55 - 0.88	0.03	0.03
Manganese	0.60 - 0.90	0.03	0.03
Phosphorus	0.040 max	--	0.005
Sulfur	0.050 max	--	0.005

4. CONDITION: Hardened and tempered.

5. TECHNICAL REQUIREMENTS:

5.1 Hardness: Rockwell C 47-53 after removing the decarburized surface.

5.2 Coiling: Washers shall be coiled so that free height is approximately twice the thickness of the washer section. Gap and relationship of severed ends shall be such as to prevent washers tangling.

5.3 Temper: After a first compression to flat, the free height of a washer shall be not less than 0.83 times the original free height. Subsequent compressions to flat shall not further reduce this free height by more than 0.005 in. but the free height after ten compressions to flat shall be not less than 0.83 times the original free height.

5.4 Toughness: A portion of washer shall be firmly gripped in vise jaws having sharp edges. Ends of washer shall be free and an axis passing through slot shall be parallel to top of vise. An equal portion of washer shall be gripped in wrench jaws. Edges of wrench jaws shall be sharp and in a plane parallel to top of vise. Free portion of washer, between grip of vise and wrench, shall approximate 25 per cent of washer diameter. Movement of wrench in a direction that increases the free height of the washer shall twist the lock washer through 90 degrees without sign of fracture. When a washer fractures, because of continued twist, the structure at the point of fracture shall show a fine grain, and shall deliver, at the instant of fracture, a tough, springy, reactive shear.