AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS 6280

Issued 9-1-42
Revised

S T E E L
.5 Ni .5 Cr .2 Mo (.27 - .33 C)

1. ACKNOWLEDGMENT: A vendor must mention this specification number in all quotations and when acknowledging purchase orders.

2. FORM: Bars, billets, forgings, or as ordered.

3. COMPOSITION:

		Individual Bar Check Analysis Over or Under
Carbon	0.27 - 0.33	0.02 (under only)
Manganese	0.70 - 0.90	0.03
Phosphorus	0.040 max	0.005
Sulphur	0.040 max	0.005
Silicon	0.20 - 0.35	0.02
Nickel	0.40 - 0.60	0.03
Chromium	0.40 - 0.60	0.03
Molybdenum	0.15 - 0.25	0.03

4. GRAIN SIZE: 5 or finer, ASTM E19-39T, method a, unless otherwise ordered. A heat of steel predominately 5 or finer, with grains as large as 3, is permissible.

5. HARDENABILITY: Material up to a diameter or thickness of 0.249 in., when quenched in oil from a temperature of 1600°F and tempered at not less than 900°F shall develop a tensile strength of not less than 125,000 lb per sq in. This does not allow a composition outside of the above requirements for lighter sections.

6. CONDITION: (a) Bar stock must be supplied in a machinable condition with a hardness of not more than Brinell 229, unless otherwise ordered.

(b) Stock ordered for forging must be supplied in the condition and finish ordered by the forging manufacturer.

(c) Forgings are to be supplied as ordered.

7. QUALITY: (a) This material must be aircraft quality. It shall be sound, clean, commercially straight and must not reveal injurious defects during forging, heat treating, or machining.

(b) Visual examination of deep acid etched bars in the as furnished condition shall show no evidence of abnormal segregation, pipes, cracks, seams, or abnormal change in structure from the surface to the center.

(c) Unless otherwise stated, finished parts are subject to magnetic inspection.

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