AERONAUTICAL MATERIAL SPECIFICATION

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

AMS 6254E

Issued 12-4-39
Revised 7-1-45

STEEL - CARBURIZING
3.5 Ni 1.5 Cr (.14 - .20 C)

CANCELLED

1. ACKNOWLEDGMENT: Vendor shall mention this specification number and its revision letter 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	0.14 - 0.20	0.01
Manganese	0.40 - 0.70	0.03
Phosphorus	0.040 max	0.005
Sulphur	0.040 max	0.005
Silicon	0.20 - 0.35	0.02
Nickel	3.25 - 3.75	0.07
Chromium	1.25 - 1.75	0.05

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

5. HARDENABILITY: The hardenability shall be J48 max. and J40=6 min. when determined by the standard end-quench test specimen in accordance with the SAE Method of Determining Hardenability published in the latest revision of the SAE Handbook, except that the steel shall be normalized at 1700°F ± 10 and the test specimen austenitized at 1500°F ± 10.

6. CONDITION: (a) Unless otherwise specified, bar stock shall be supplied in a machinable condition with a hardness of not more than Brinell 229, except that if cold drawn stock is ordered, a hardness of Brinell 248 is permissible.

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

(c) Forgings shall be supplied as ordered.

7. QUALITY: (a) This steel shall be aircraft quality. It shall be uniform in quality and condition, clean, sound, and free from foreign material and from internal and external defects which adversely affect its strength or machinability. Material revealing defects during fabrication shall be subject to rejection.

(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.