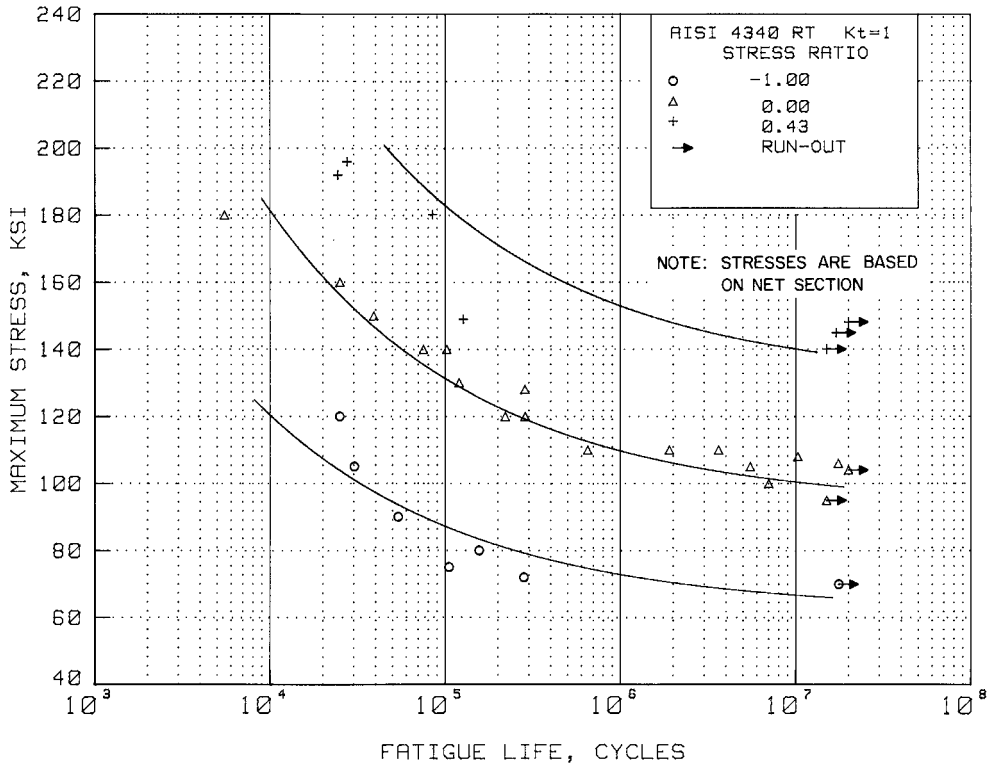

Figure 2.3.1.3.8(k). Best-fit S/N curves for unnotched AISI 4340 alloy steel bar and die forging, F_{tu} = 200 ksi, longitudinal direction.

Correlative Information for Figure 2.3.1.3.8(k)

Product Form: Rolled bar, 1.125 inch diameter, air melted
Die forging (landing gear-B-36 aircraft), air melted

Properties:

TUS, ksi	TYS, ksi	Temp., °F
208, 221	189, 217	RT (unnotched)
251	—	RT (notched)

Specimen Details: Unnotched
0.300 and 0.400inch diameter

Surface Condition: Hand polished to RMS 5-10

References: 2.3.1.3.8(a) and (c)

Test Parameters:
Loading - Axial
Frequency - 2000 to 2500 cpm
Temperature - RT
Atmosphere - Air

No. of Heat/Lots: 2

Equivalent Stress Equation:
Log N_f = 9.31-2.73 log (S_{eq}-93.4)
$S_{eq} = S_{max} (1-R)^{0.59}$
Std. Error of Estimate, Log (Life) = 0.49
Standard Deviation, Log (Life) = 0.93
R^2 = 72%

Sample Size = 26

[Caution: The equivalent stress model may provide unrealistic life predictions for stress ratios beyond those represented above.]