

Table 3.6
COMPARISON BETWEEN FINITE ELEMENT MODEL TORSIONAL LOADING RESULTS
AND TEST RESULTS FOR PIN NUMBER 5

	Peak Positive Torque ¹ Principal Stresses (ksi)		Peak Negative Torque ² Principal Stresses (ksi)		Range of Principal Stress (ksi)	Range of Equivalent Stress (ksi)
	σ_1	σ_2	σ_1	σ_2		
Finite Element Case 1	20.7	-18.0	10.4	-11.9	32.6	52.9
Finite Element Case 2	29.2	1.2	-0.7	-16.8	46.0	45.1
Strain Gage [4]	26.2	-2.9	4.9	-18.7	44.9	49.3

¹ Peak positive torque = 251.6×10^3 ft.-lb.

² Peak negative torque = -144.6×10^3 ft.-lb.

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Table 3.7
COMPARISON BETWEEN FINITE ELEMENT MODEL TORSIONAL LOADING RESULTS AND
TEST RESULTS FOR PIN NUMBER 7

	Peak Positive Torque ¹ Principal Stresses (ksi)		Peak Negative Torque ² Principal Stresses (ksi)		Range of Principal Stress (ksi)	Range of Equivalent Stress (ksi)
	σ_1	σ_2	σ_1	σ_2		
Finite Element Case 1	18.7	-16.3	7.3	-8.3	27.6	43.9
Finite Element Case 2	26.5	1.1	-0.5	-11.8	38.3	37.5
Strain Gage [4]	23.4	-8.9	2.8	-14.1	37.5	44.5

1 Peak positive torque = 251.6×10^3 ft.-lb.

2 Peak negative torque = -144.6×10^3 ft.-lb.