

ME-653-A

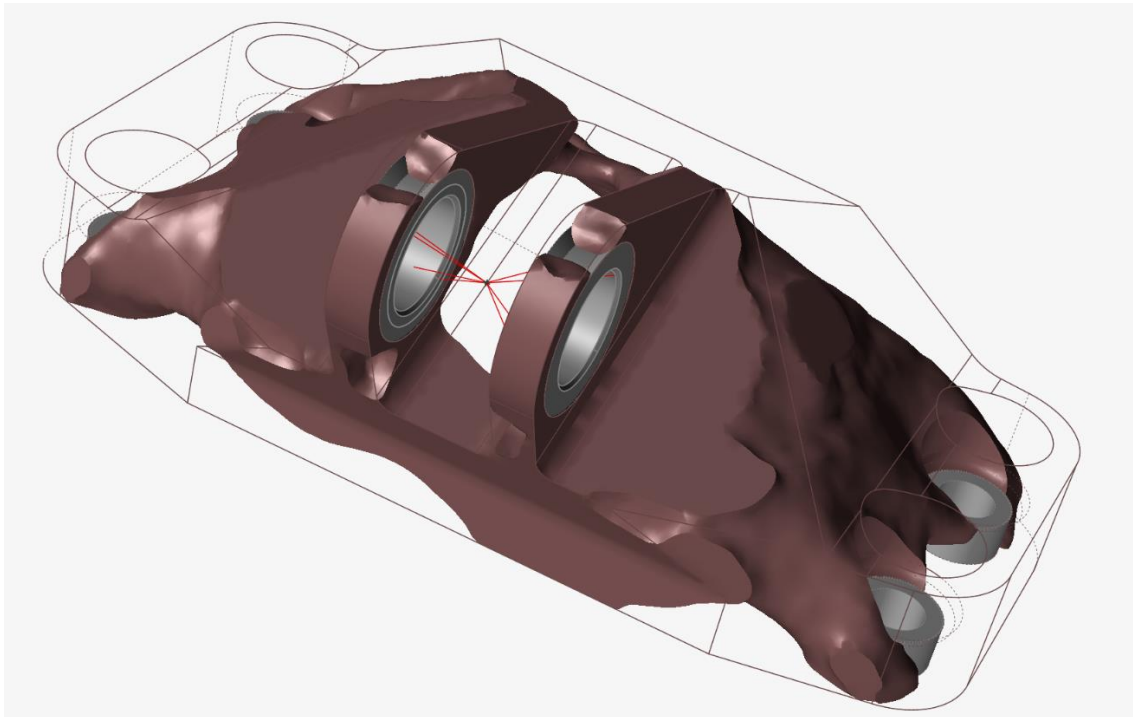
DESIGN FOR ADDITIVE MANUFACTURING

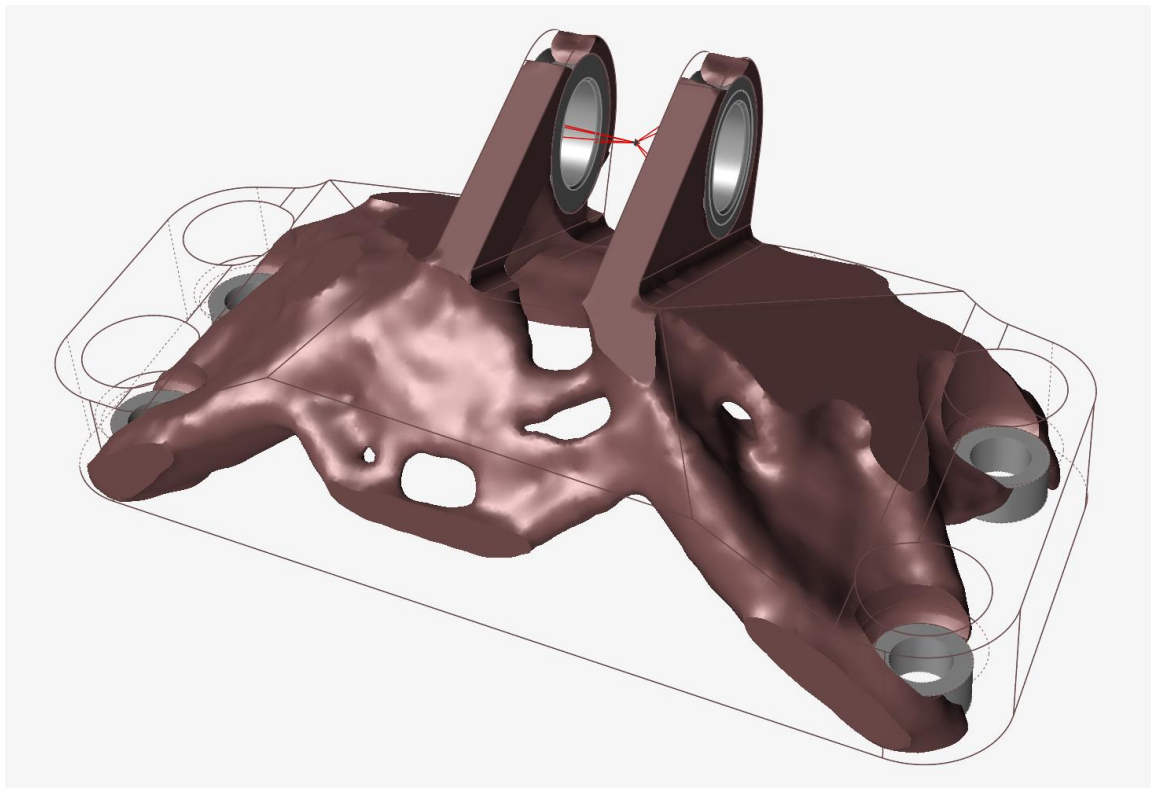
DESIGN ASSIGNMENT-1

KALPAK HEDAWOO

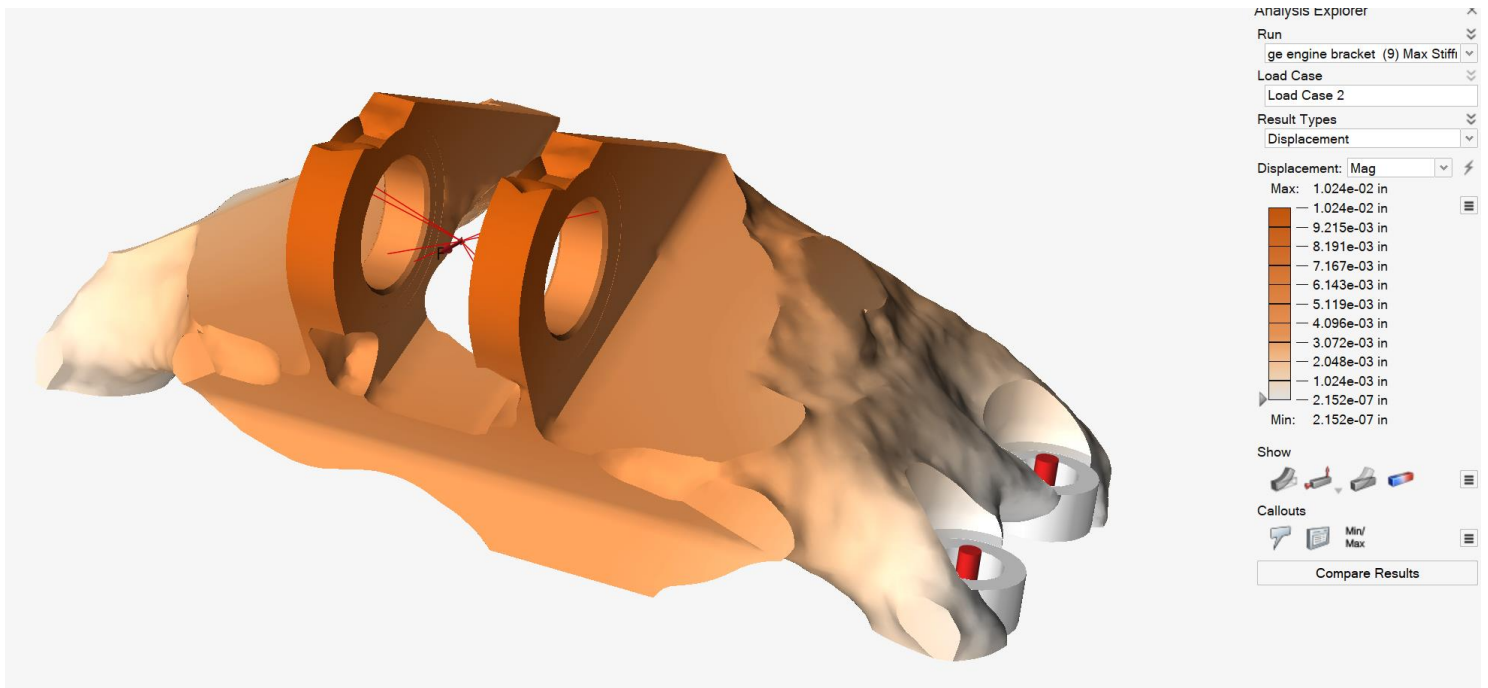
30 % TOPOLOGY OPTIMIZED BRACKET

Horizontal

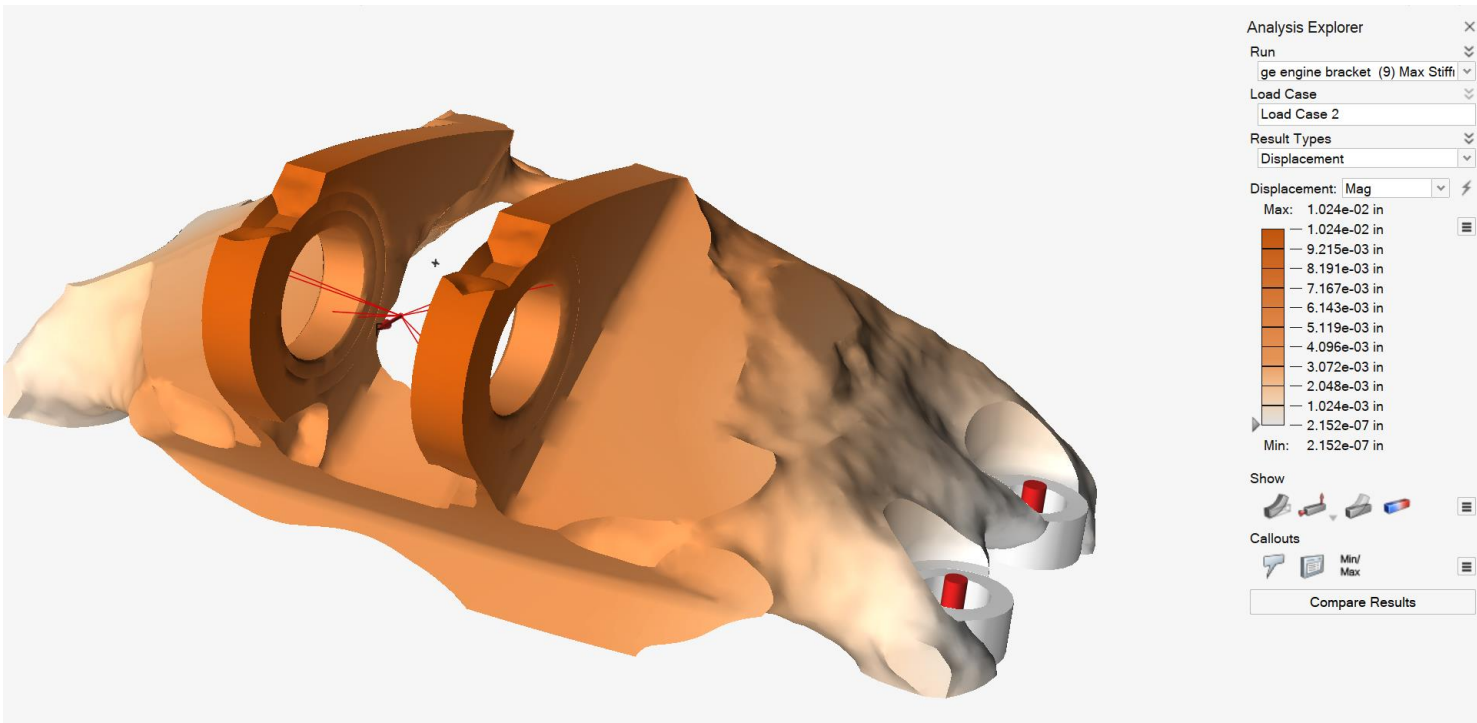




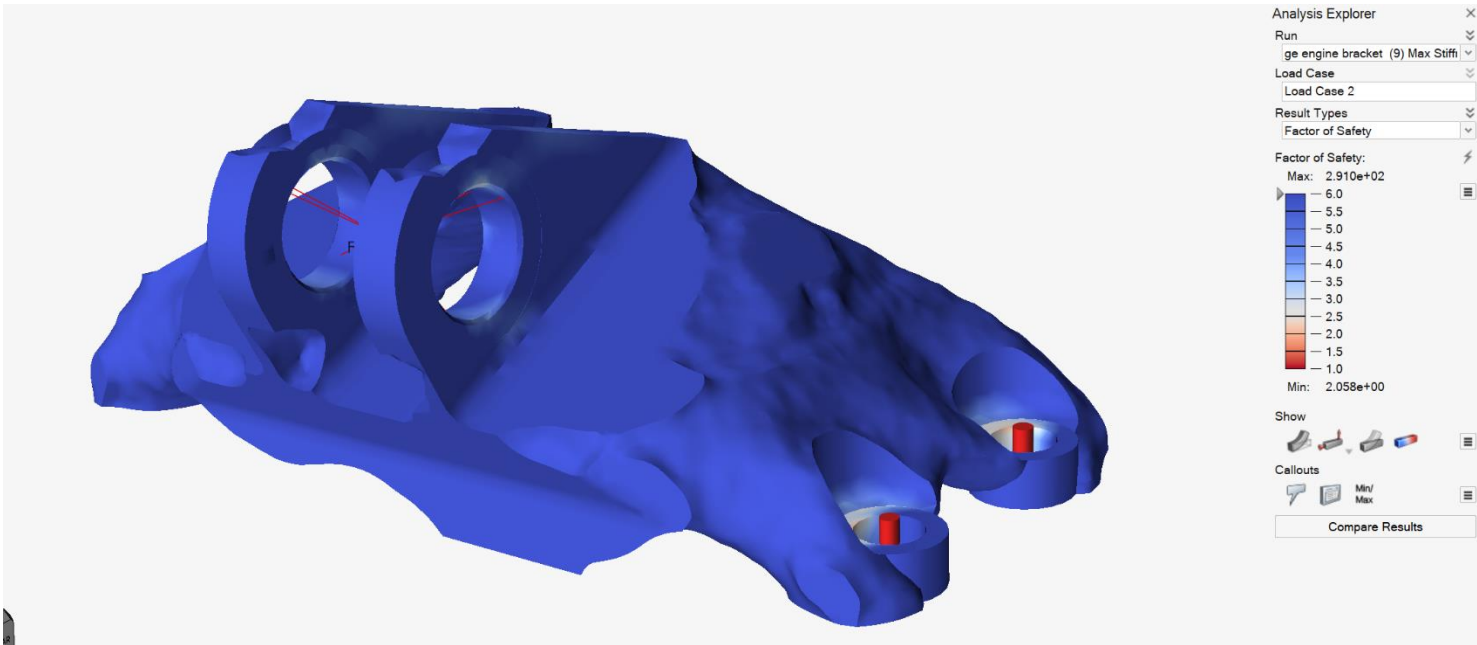
INITIAL DISPLACEMENT / STILL POSITION



MAXIMUM DISPLACEMENT



FACTOR OF SAFETY



TENSION AND COMPRESSION ANALYSIS

Analysis Explorer

Run

ge engine bracket (9) Max Stiff

Load Case

Load Case 2

Result Types

Tension/Compression

Tension/Compression:

Max: 5.079e+04 lbfin2

Tension

4.056e+04 lbfin2

3.034e+04 lbfin2

2.012e+04 lbfin2

9.896e+03 lbfin2

-3.274e+02 lbfin2

-1.055e+04 lbfin2

-2.077e+04 lbfin2

-3.100e+04 lbfin2

-4.122e+04 lbfin2

Compression

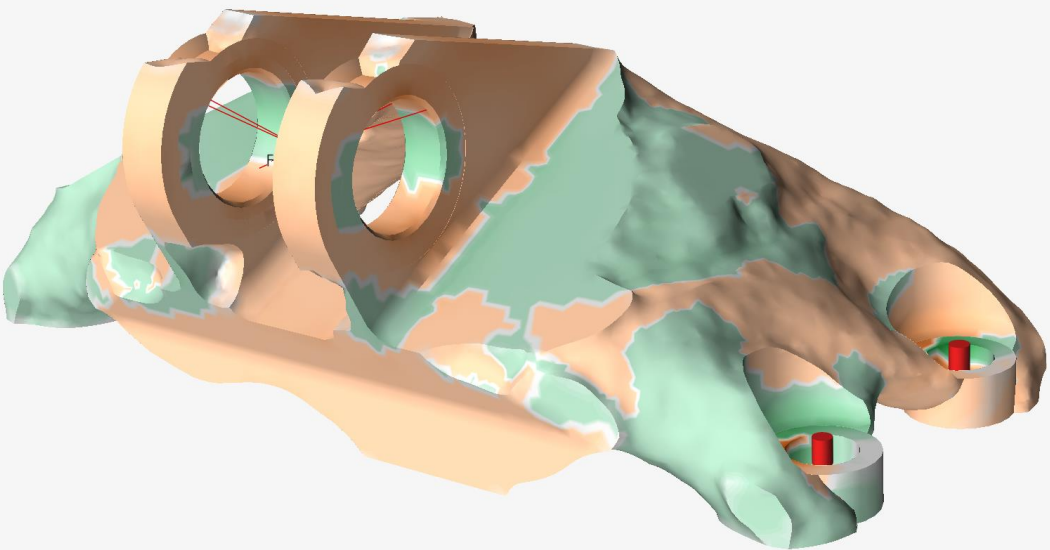
Min: -5.144e+04 lbfin2

Show

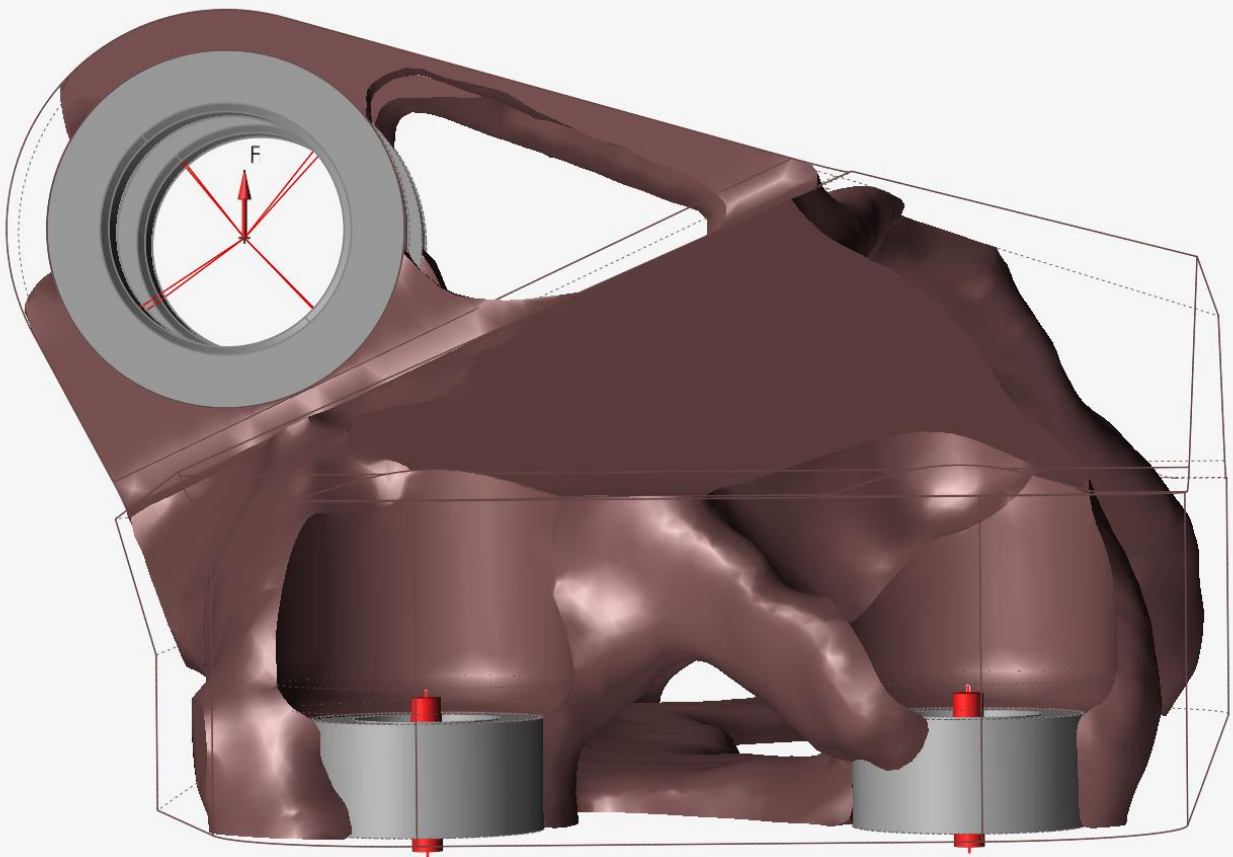
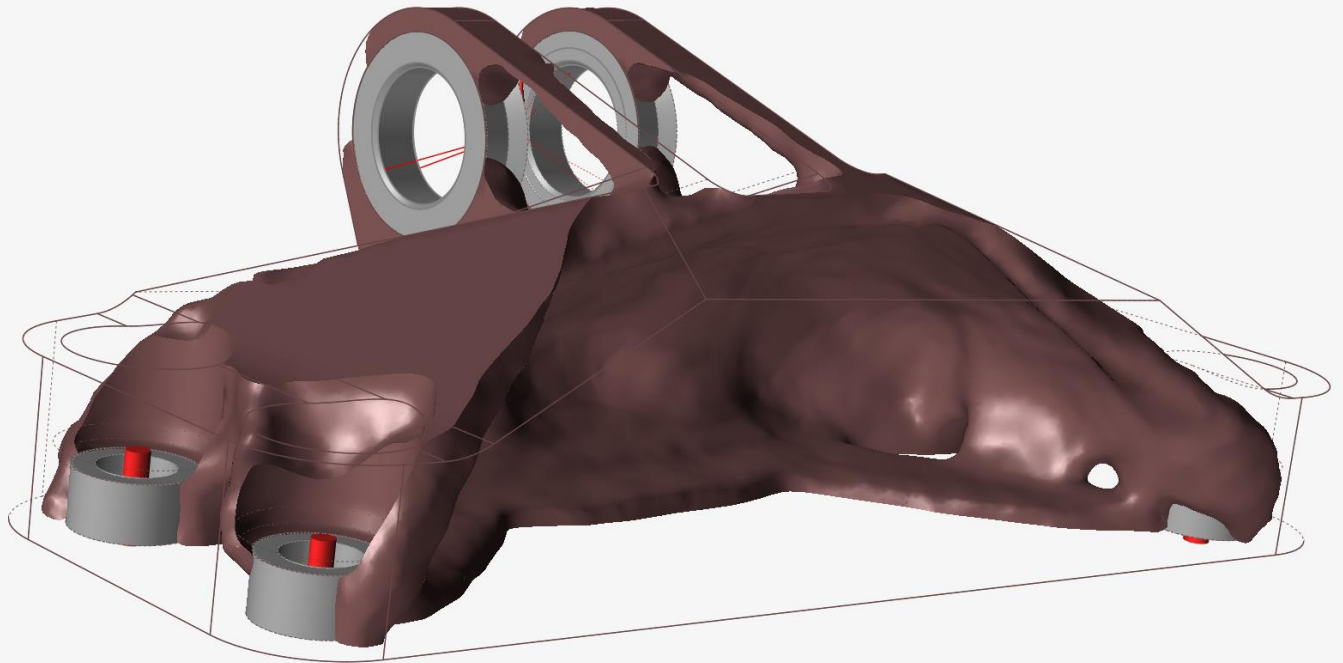
Cellouts

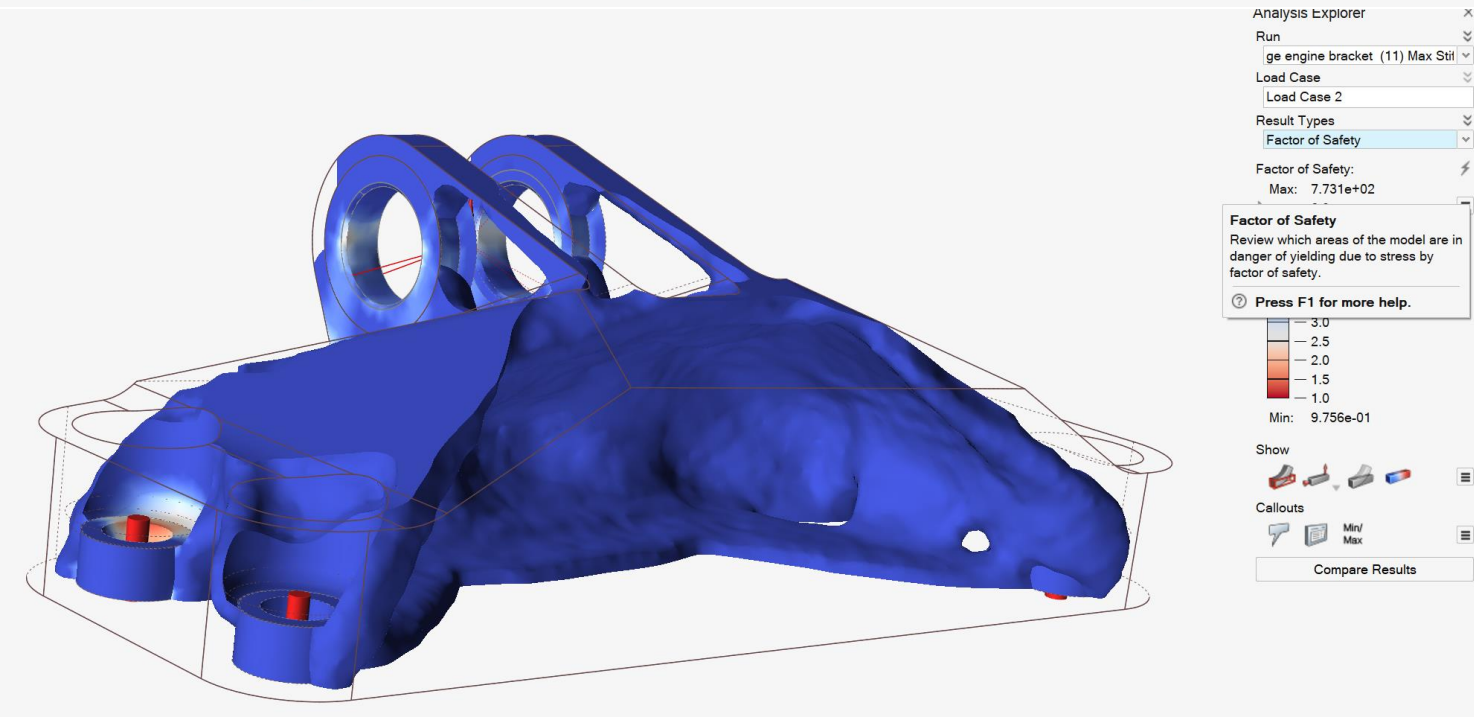
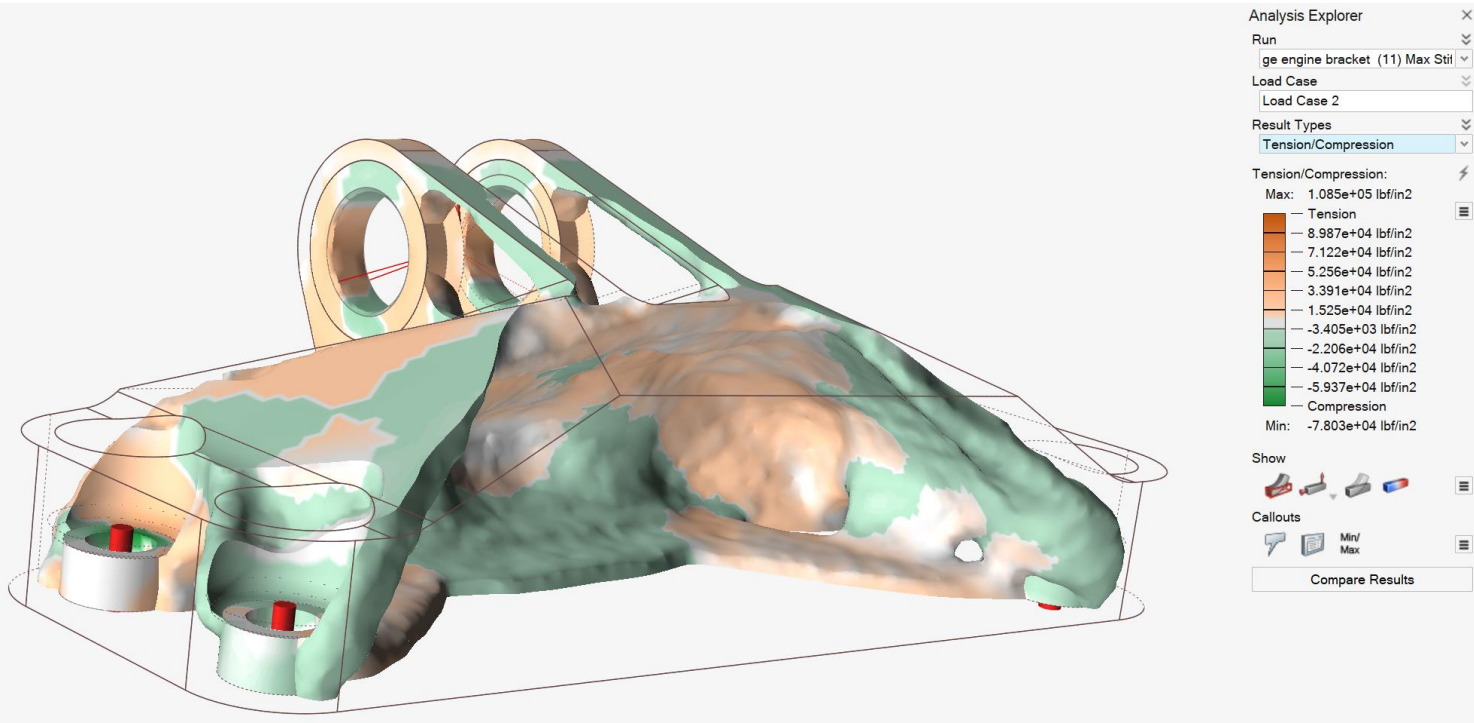
Min/Max

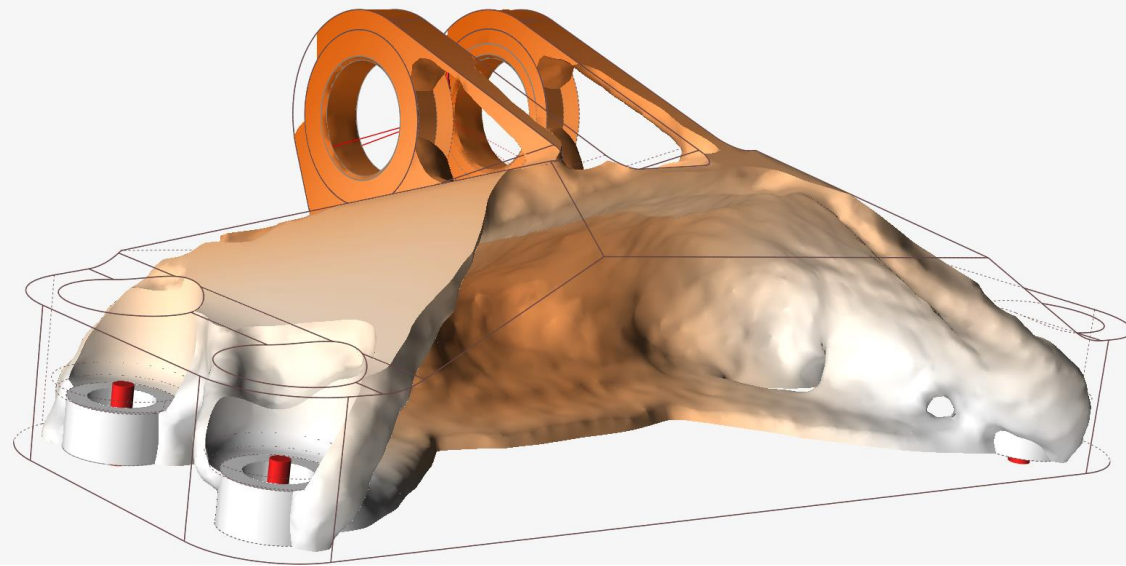
Compare Results



VERTICAL







Analysis Explorer

Run

ge engine bracket (11) Max Sti

Load Case

Load Case 2

Result Types

Displacement

Displacement: Mag

Max: 1.578e-02 in

1.578e-02 in

1.420e-02 in

1.263e-02 in

1.105e-02 in

9.470e-03 in

7.892e-03 in

6.313e-03 in

4.735e-03 in

3.157e-03 in

1.578e-03 in

5.781e-08 in

Min: 5.781e-08 in

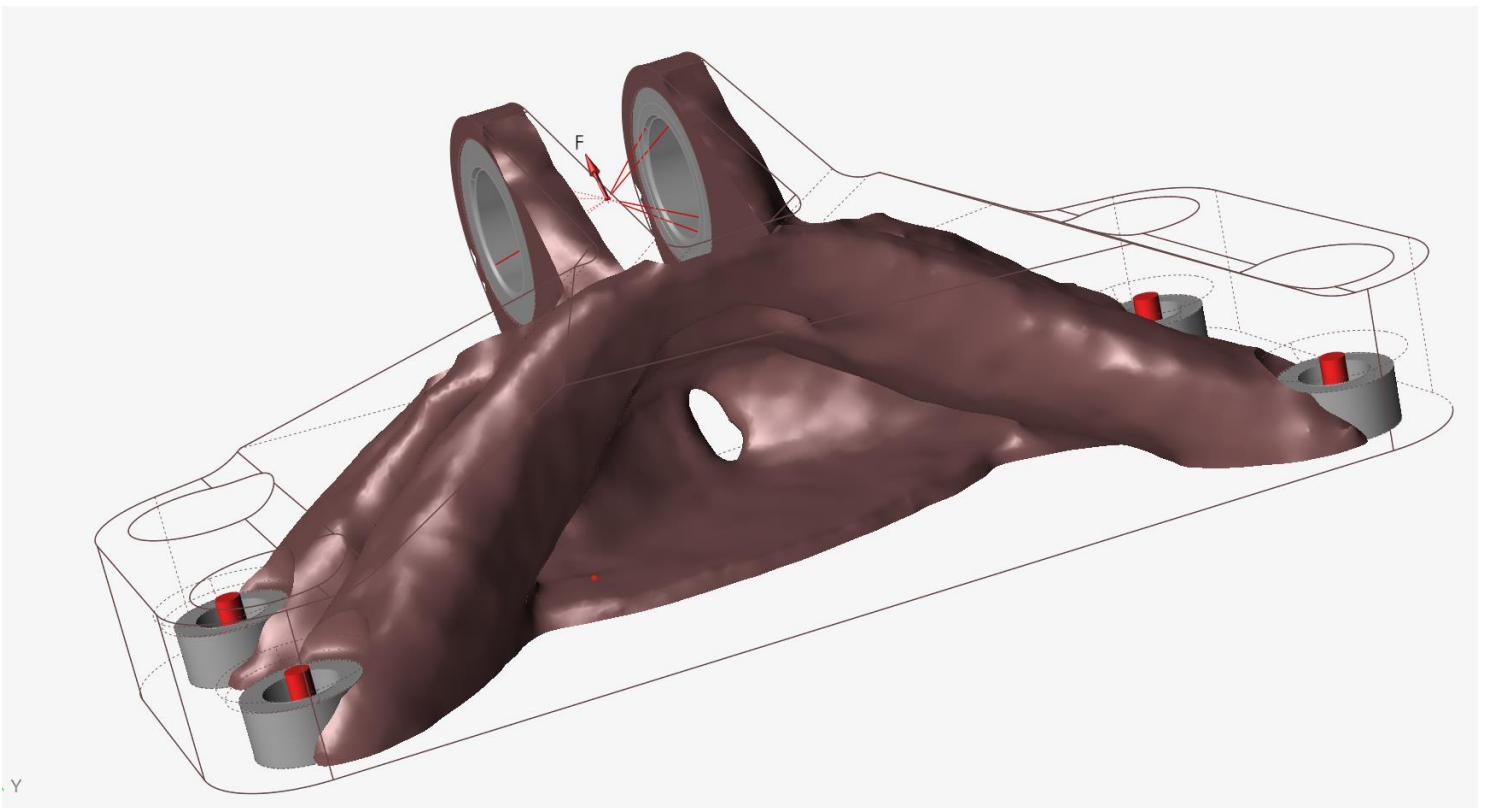
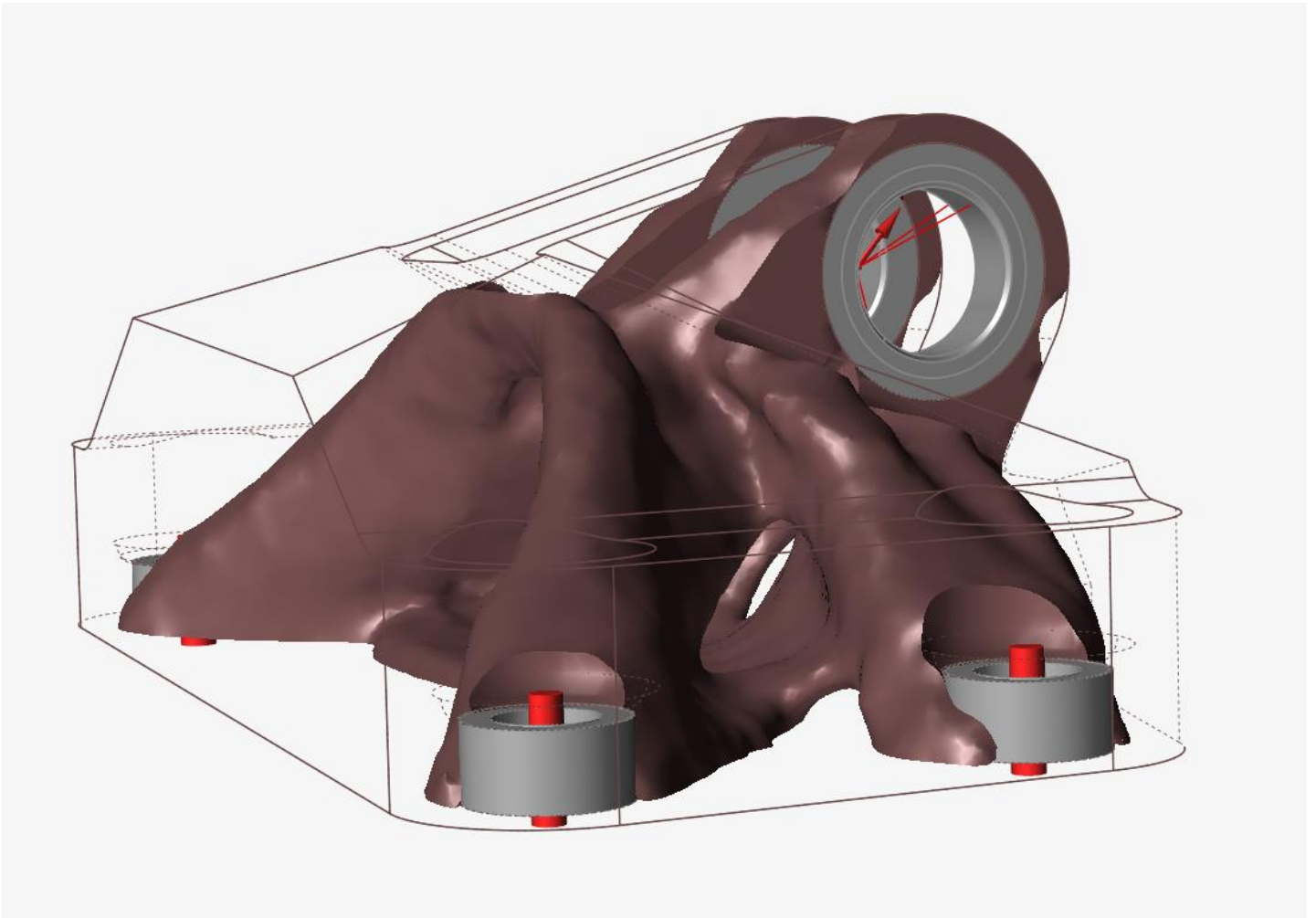
Show

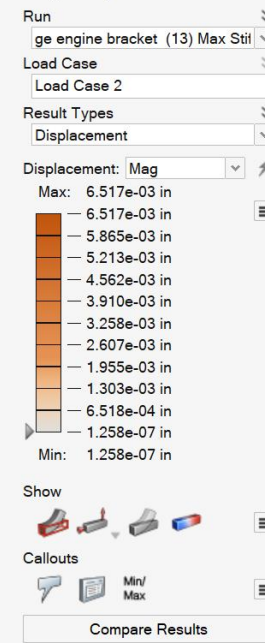
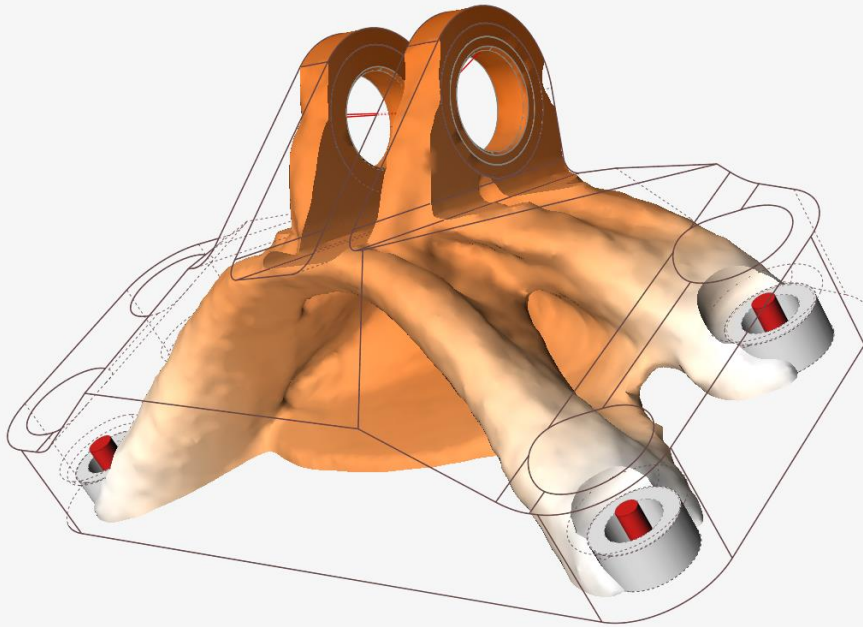
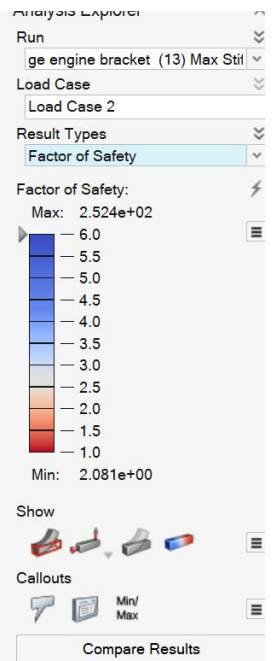
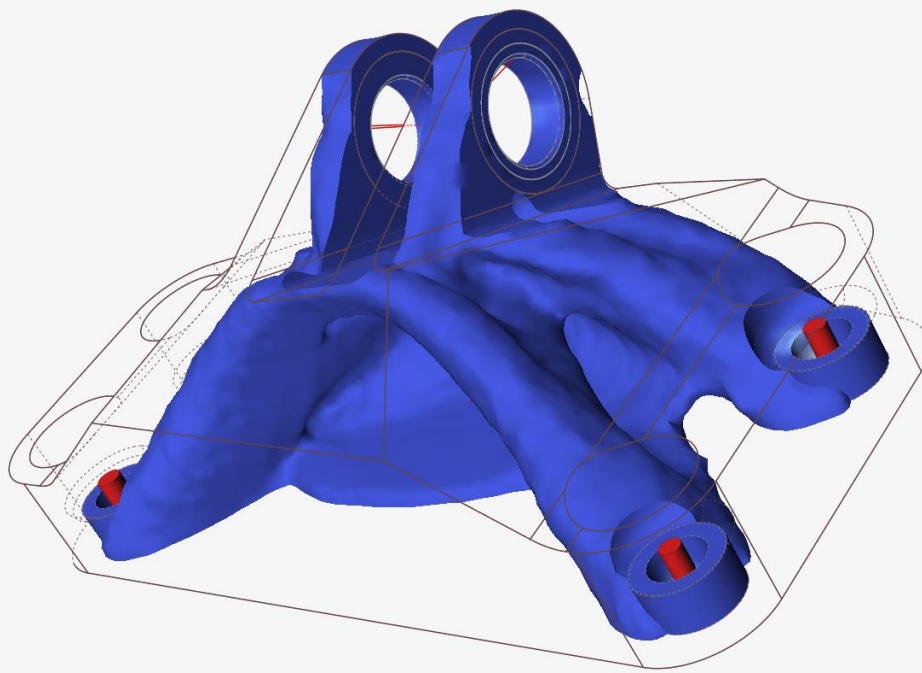
Callouts

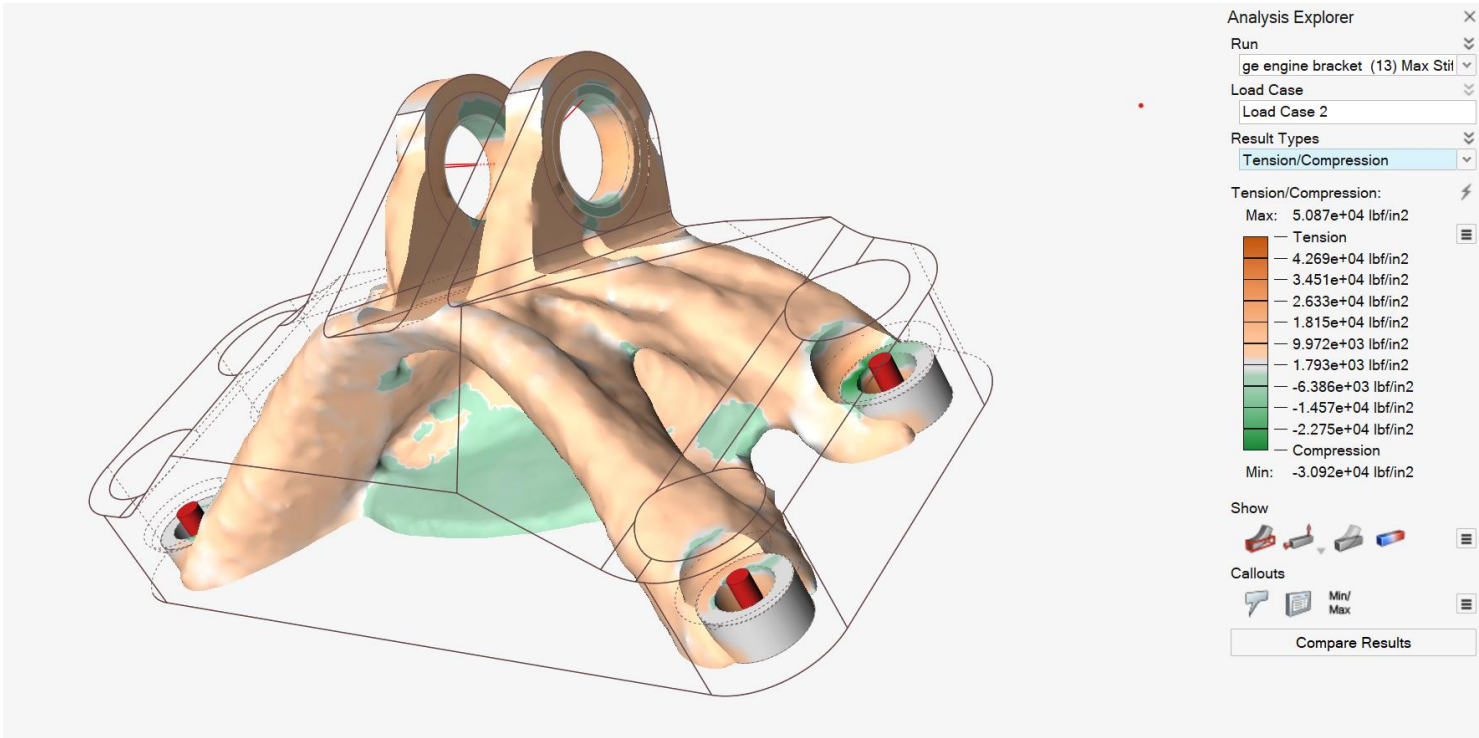
Min/Max

Compare Results

AT 42 DEGREE TO VERTICAL







MASS REDUCTION BY 50 %

