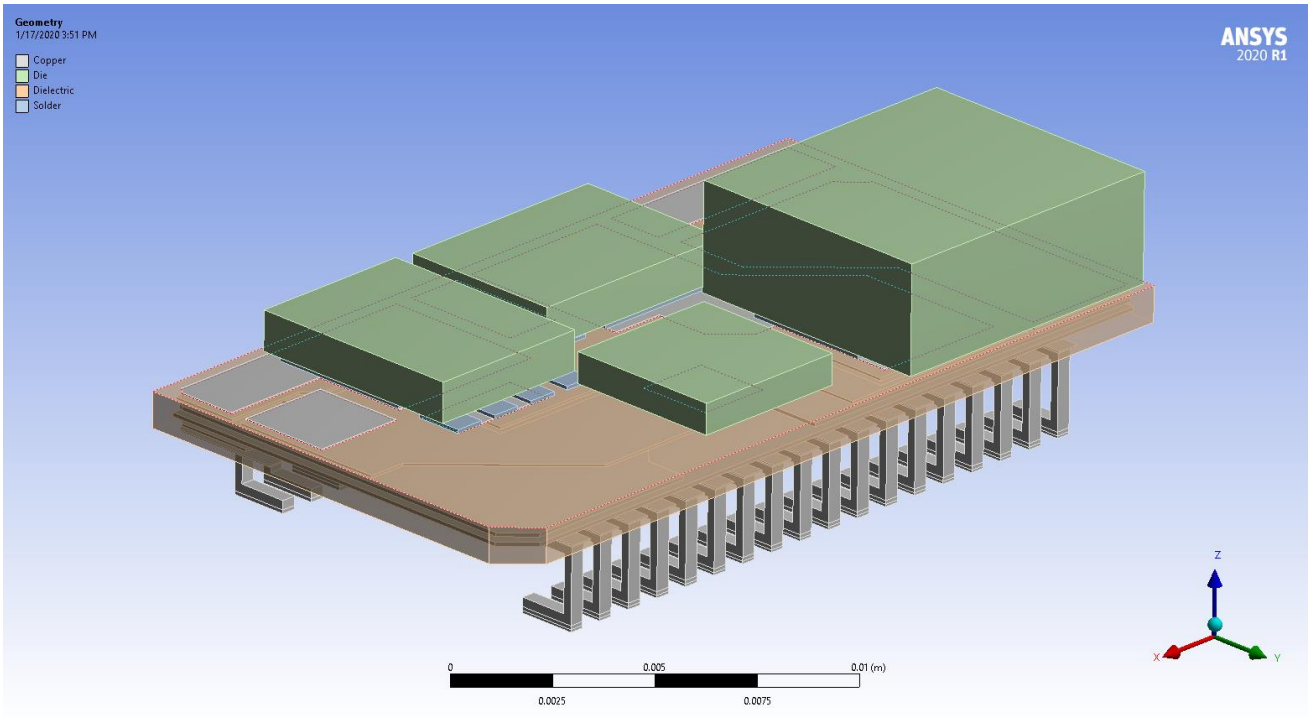
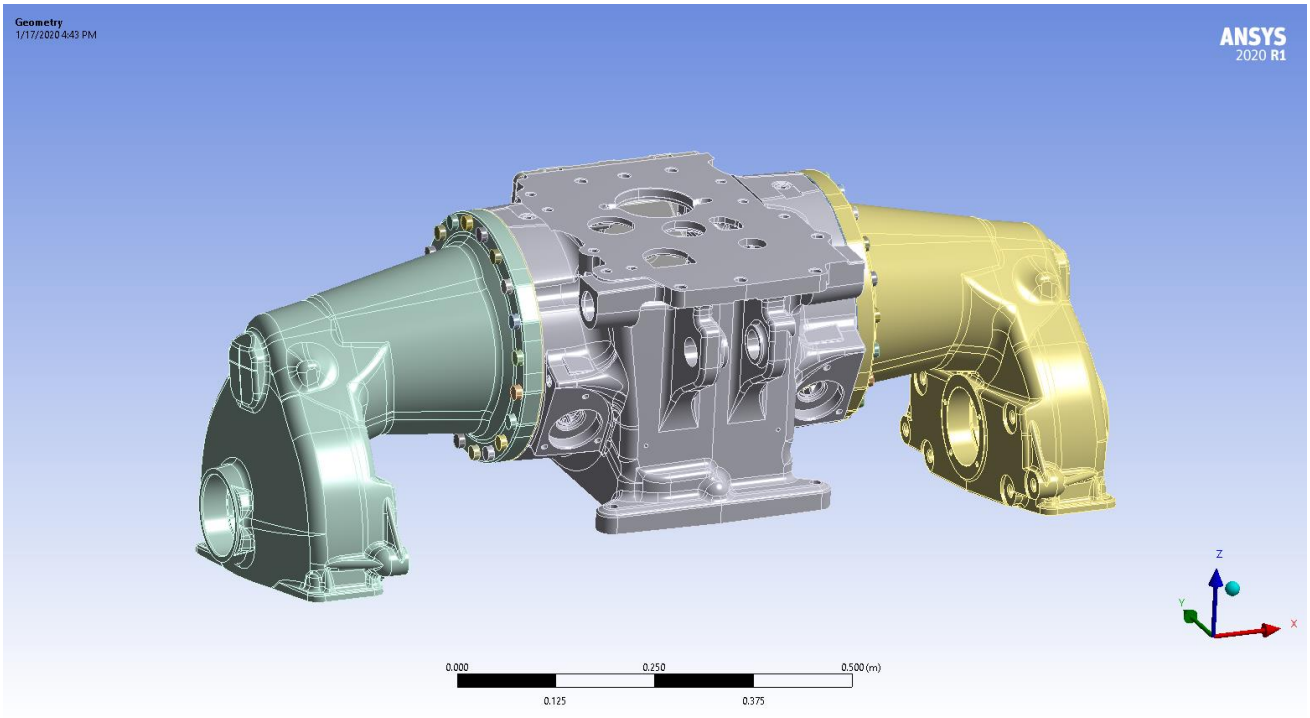
Mechanical APDL 2023 Cluster Benchmark Descriptions

Job	Description	GPU Option	Notes
V23iter-4	JCG solver, symmetric matrix, 30m DOFS, static, linear, thermal analysis	NVIDIA	Large sized job for iterative solvers, 100 GB RAM required, good test of memory bandwidth
V23iter-5	PCG solver, symmetric matrix, 63m DOFs, static, linear, structural analysis	NVIDIA	Large sized job for iterative solvers, 170 GB RAM required, good test of memory bandwidth
V23iter-6	PCG solver, symmetric matrix, 125m DOFs, static, linear, structural analysis	NVIDIA	Large sized job for iterative solvers, 200 GB RAM required, good test of memory bandwidth
V23direct-4	Sparse solver, non-symmetric matrix, 4m DOFs, static, nonlinear, thermal-electric coupled field analysis	NVIDIA	Large sized job for direct solvers, should run incore on machines with 260 GB or more of memory, good test of processor flop speed if running incore, and I/O speed if running out-of-core
V23direct-5	Sparse solver, symmetric matrix, 15m DOFs, static, nonlinear, structural analysis with 1 iteration	NVIDIA	Large sized job for direct solvers), should run incore on machines with 480 GB or more of memory, good test of processor flop speed if running incore, and I/O speed if running out-of-core
V23direct-6	Sparse solver, symmetric matrix, 11m DOFs, harmonic, linear, structural analysis requesting 1 frequency.	NVIDIA	Large sized job for direct solvers, should run incore on machines with 660 GB or more of memory, good test of processor flop speed if running incore, and I/O speed if running out-of-core

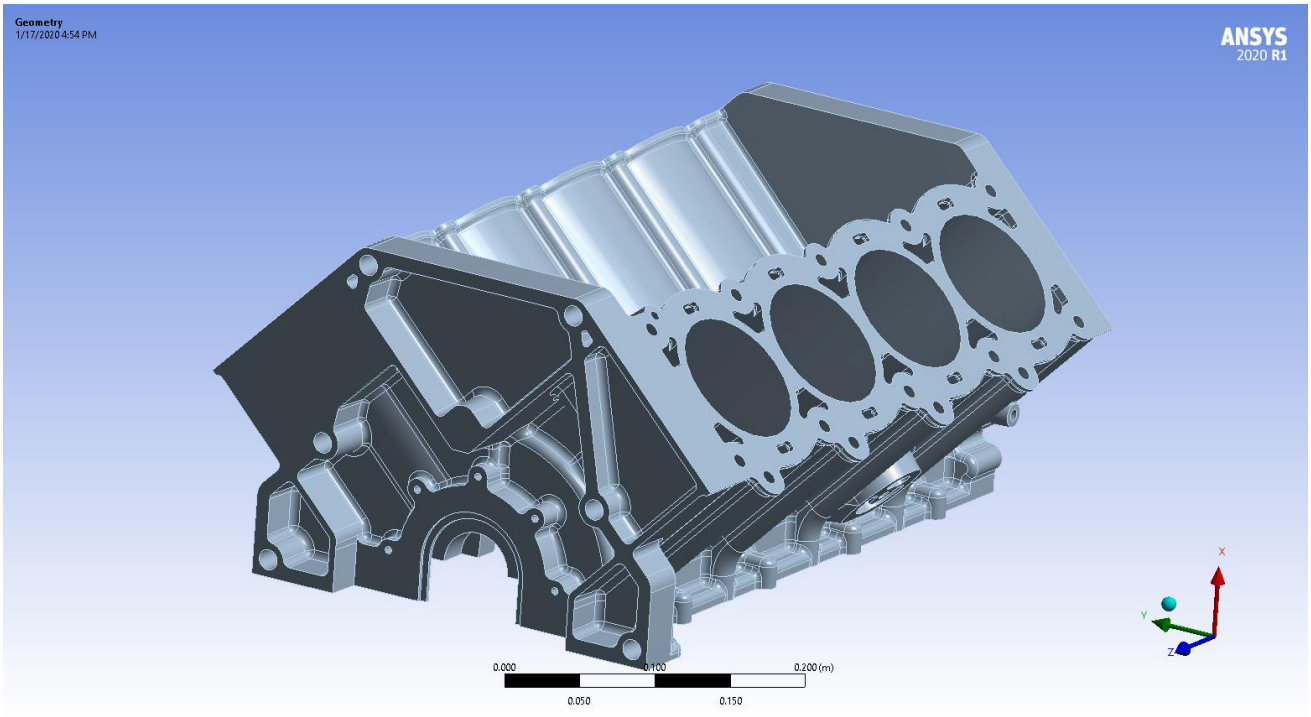
Mechanical APDL 2023 Cluster Benchmark Images



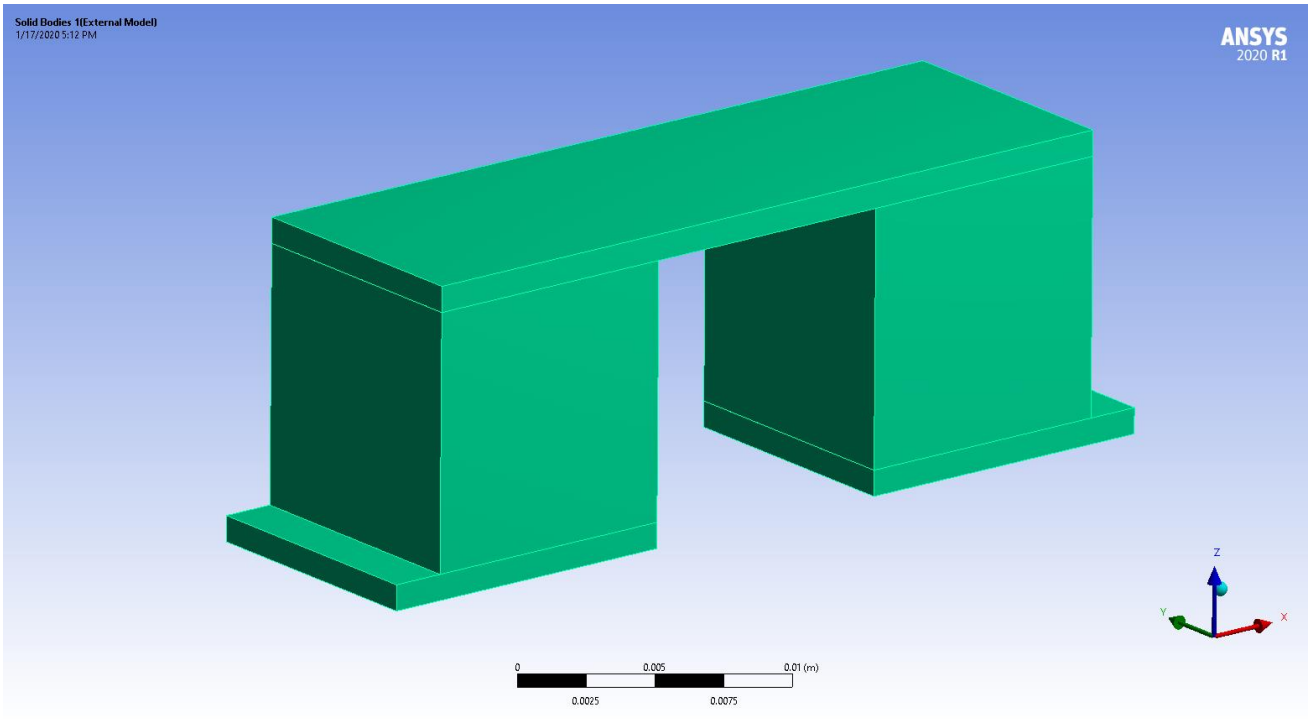
V23iter-4 Benchmark Model



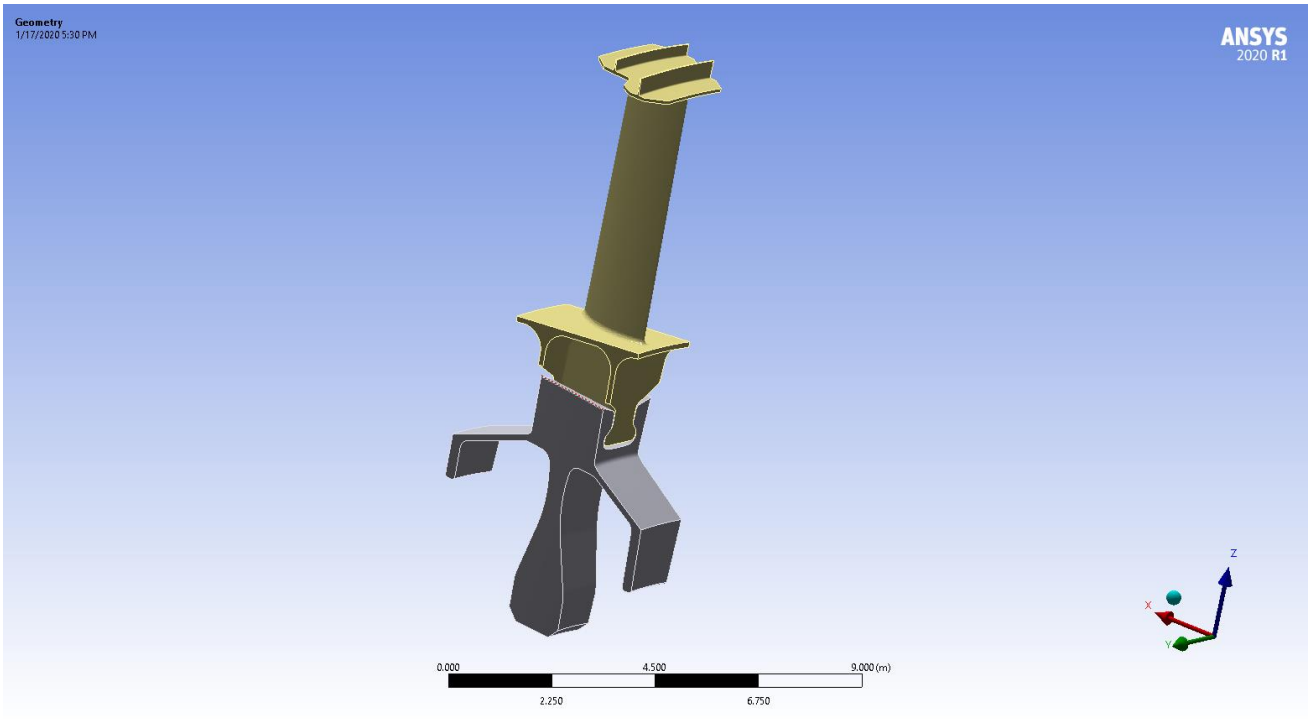
V23iter-5 Benchmark Model



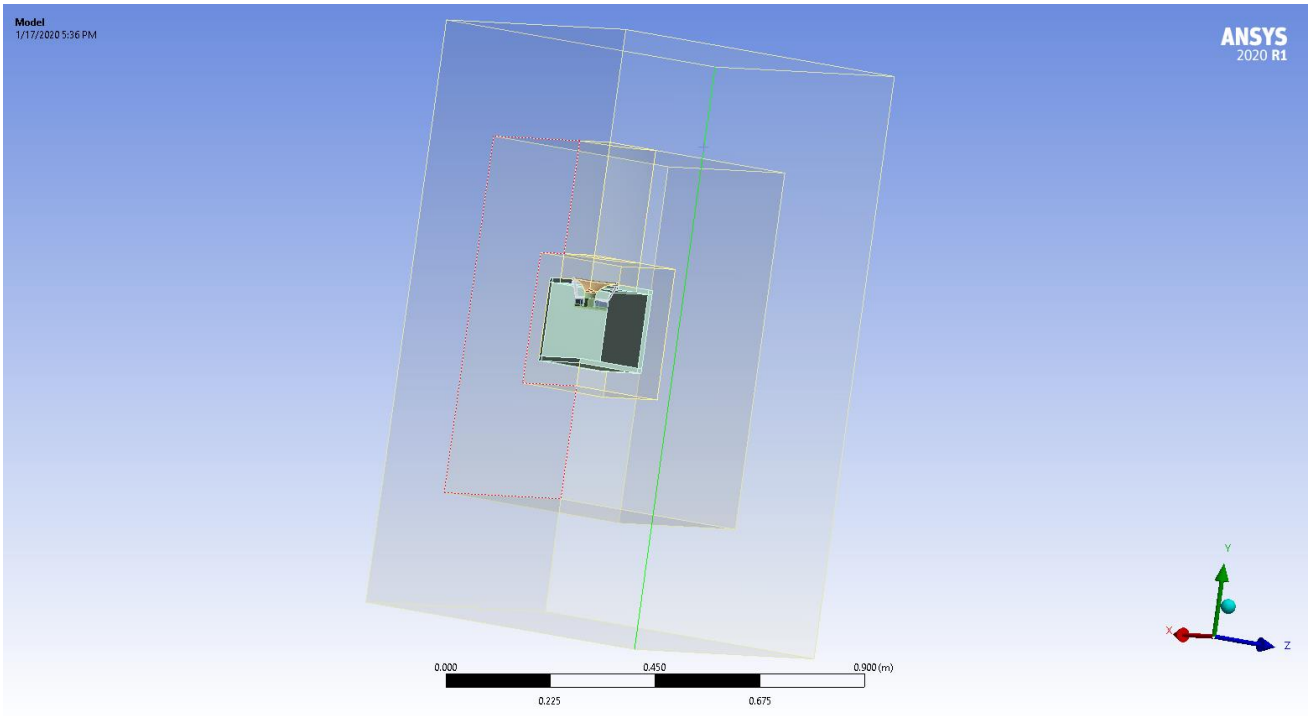
V23iter-6 Benchmark Model



V23direct-4 Benchmark Model



V23direct-5 Benchmark Model



V23direct-6 Benchmark Model