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Basic Modeling Tools SOLIDWORKS CAM SOLIDWORKS CAM TBM Simulation Analysis Preparation

Mass Properties

lab 3 part 2

Options... Override Mass Properties... Recalculate

Include hidden bodies/components

Create Center of Mass feature

Show weld bead mass

Report coordinate values relative to: -- default --

Mass properties of lab 3 part 2
Configuration: Default
Coordinate system: -- default --

Density = 0.04 pounds per cubic inch

Mass = 0.06 pounds

Volume = 1.57 cubic inches

Surface area = 14.56 square inches

Center of mass: (inches)
X = 0.00
Y = 2.61
Z = -0.75

Principal axes of inertia and principal moments of inertia: (pounds * square inches)
Taken at the center of mass.
Ix = (0.00, 0.97, -0.26) Px = 0.03
Iy = (0.00, 0.26, 0.97) Py = 0.10
Iz = (1.00, 0.00, 0.00) Pz = 0.13

Moments of inertia: (pounds * square inches)
Taken at the center of mass and aligned with the output coordinate system. (Using positive)
Lxx = 0.13 Lxy = 0.00 Lxz = 0.00
Lyx = 0.00 Lyy = 0.04 Lyz = -0.02
Lzx = 0.00 Lzy = -0.02 Lzz = 0.10

Moments of inertia: (pounds * square inches)
Taken at the output coordinate system. (Using positive tensor notation.)
lxz = 0.55 lxy = 0.00 lxz = 0.00
lyx = 0.00 lyx = 0.07 lyz = -0.13
lzx = 0.00 lzy = -0.13 lzz = 0.48

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Let's get started

Model Motion Study 1

SOLIDWORKS Student Edition - Academic Use Only

Editing Part Simplified Interface IPS

SOLIDWORKS > dome

Sketch Line Corner Circle Polygon Centerpoint Spline Smart Dimension Relation Offset Entities Convert Mirror Entities Extruded Boss/Base Fillet Linear Pattern Extruded Cut Reference Geometry Measure Mass Properties

Mass Properties

lab 3 part 3

Override Mass Properties... Recalculate

Include hidden bodies/components

Create Center of Mass feature

Show weld bead mass

Report coordinate values relative to: -- default --

Mass properties of lab 3 part 3
Configuration: Default
Coordinate system: -- default --

Density = 0.04 pounds per cubic inch

Mass = 0.14 pounds

Volume = 3.86 cubic inches

Surface area = 24.75 square inches

Center of mass: (inches)
X = 0.00
Y = 4.54
Z = 0.81

Principal axes of inertia and principal moments of inertia: (pounds * square inches)
Taken at the center of mass.
Ix = (0.00, 0.99, 0.15) Px = 0.06
Iy = (0.00, -0.15, 0.99) Py = 0.89
Iz = (1.00, 0.00, 0.00) Pz = 0.94

Moments of inertia: (pounds * square inches)
Taken at the center of mass and aligned with the output coordinate system. (Using positive tensor notation.)
Lxx = 0.94 Lxy = 0.00 Lxz = 0.00
Lyx = 0.00 Lyy = 0.08 Lyz = 0.12
Lzx = 0.00 Lzy = 0.12 Lzz = 0.87

Moments of inertia: (pounds * square inches)
Taken at the output coordinate system. (Using positive tensor notation.)
Ix = 3.90 Ixy = 0.00 Ixz = 0.00
Iyx = 0.00 Iyy = 0.17 Iyz = 0.63
Izx = 0.00 Izy = 0.63 Izz = 3.74

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