

SOLIDWORKS Student Edition - Academic Use Only

lab 3 part 1

Search files and models

Offset Entities, Convert Entities, Mirror Entities, Extruded Boss/Base, Extruded Cut, Fillet, Linear Pattern, Mirror, Draft, Shell, Reference Geometry, Measure, Mass Properties

Preparation

Mass Properties

lab 3 part 1

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 1
Configuration: Default
Coordinate system: -- default --

Density = 0.00 grams per cubic millimeter

Mass = 0.12 grams

Volume = 123.72 cubic millimeters

Surface area = 496.52 square millimeters

Center of mass: (millimeters)
X = 0.00
Y = -3.09
Z = 12.33

Principal axes of inertia and principal moments of inertia: (grams * square millimeters)
Taken at the center of mass.
I_x = (0.00, 0.01, 1.00) Px = 0.79
I_y = (0.00, -1.00, 0.01) Py = 19.83
I_z = (1.00, 0.00, 0.00) Pz = 20.60

Moments of inertia: (grams * square millimeters)
Taken at the center of mass and aligned with the output coordinate system. (Using positive tensor notation.)
L_{xx} = 20.60 L_{xy} = 0.00 L_{xz} = 0.00
L_{yx} = 0.00 L_{yy} = 19.83 L_{yz} = 0.21
L_{zx} = 0.00 L_{zy} = 0.21 L_{zz} = 0.79

Moments of inertia: (grams * square millimeters)
Taken at the output coordinate system. (Using positive tensor notation.)
I_{xx} = 40.59 I_{xy} = 0.00 I_{xz} = 0.00
I_{yx} = 0.00 I_{yy} = 38.64 I_{yz} = -4.50
I_{zx} = 0.00 I_{zy} = -4.50 I_{zz} = 1.97

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Simplified Interface MMGS

SOLIDWORKS

lab 3 part 2

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

Basic Modeling Tools SOLIDWORKS CAM SOLIDWORKS CAM TBM Simulation Analysis Preparation

lab 3 part 2

Solid Bodies(1)

Equations

Material <not specified>

Front Plane

Top Plane

Right Plane

Origin

Sweep1

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 tensor notation.)

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.)

lxx = 0.55 lxy = 0.00 lxz = 0.00

lyx = 0.00 lyy = 0.07 lyz = -0.13

lzx = 0.00 lzy = -0.13 lzz = 0.48

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lab 3 part 3

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

Mass Properties

lab 3 part 3

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 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.

$I_x = (0.00, 0.99, 0.15)$	$P_x = 0.06$
$I_y = (0.00, -0.15, 0.99)$	$P_y = 0.89$
$I_z = (1.00, 0.00, 0.00)$	$P_z = 0.94$

Moments of inertia: (pounds * square inches)
Taken at the center of mass and aligned with the output coordinate system. (Using positive tensor notation.)

$L_{xx} = 0.94$	$L_{xy} = 0.00$	$L_{xz} = 0.00$
$L_{yx} = 0.00$	$L_{yy} = 0.08$	$L_{yz} = 0.12$
$L_{zx} = 0.00$	$L_{zy} = 0.12$	$L_{zz} = 0.87$

Moments of inertia: (pounds * square inches)
Taken at the output coordinate system. (Using positive tensor notation.)

$I_{xx} = 3.90$	$I_{xy} = 0.00$	$I_{xz} = 0.00$
$I_{yx} = 0.00$	$I_{yy} = 0.17$	$I_{yz} = 0.63$
$I_{zx} = 0.00$	$I_{zy} = 0.63$	$I_{zz} = 3.74$

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Preparation

Search

Document Type (8 more...)
SOLIDWORKS Part Document (4)
SOLIDWORKS Assembly Document (3)
Microsoft Edge HTML Document (30)

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