

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<sub>x</sub> = ( 0.00, 0.01, 1.00 ) Px = 0.79  
I<sub>y</sub> = ( 0.00, -1.00, 0.01 ) Py = 19.83  
I<sub>z</sub> = ( 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<sub>xx</sub> = 20.60 L<sub>xy</sub> = 0.00 L<sub>xz</sub> = 0.00  
L<sub>yx</sub> = 0.00 L<sub>yy</sub> = 19.83 L<sub>yz</sub> = 0.21  
L<sub>zx</sub> = 0.00 L<sub>zy</sub> = 0.21 L<sub>zz</sub> = 0.79

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

Help Print... Copy to Clipboard

SOLIDWORKS Student Edition - Academic Use Only

Simplified Interface MMGS

SOLIDWORKS

lab 3 part 2

Search Commands

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 ToolsSOLIDWORKS CAMSOLIDWORKS CAM TBMSimulationAnalysis Preparation

lab 3 part 2

Solid Bodies(1)EquationsMaterial <not specified>Front PlaneTop PlaneRight PlaneOriginSweep1

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.  
I<sub>x</sub> = ( 0.00, 0.97, -0.26 )    P<sub>x</sub> = 0.03  
I<sub>y</sub> = ( 0.00, 0.26, 0.97 )    P<sub>y</sub> = 0.10  
I<sub>z</sub> = ( 1.00, 0.00, 0.00 )    P<sub>z</sub> = 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.)  
L<sub>xx</sub> = 0.13    L<sub>xy</sub> = 0.00    L<sub>xz</sub> = 0.00  
L<sub>yx</sub> = 0.00    L<sub>yy</sub> = 0.04    L<sub>yz</sub> = -0.02  
L<sub>zx</sub> = 0.00    L<sub>zy</sub> = -0.02    L<sub>zz</sub> = 0.10

Moments of inertia: ( pounds \* square inches )  
Taken at the output coordinate system. (Using positive tensor notation.)  
I<sub>xx</sub> = 0.55    I<sub>xy</sub> = 0.00    I<sub>xz</sub> = 0.00  
I<sub>yx</sub> = 0.00    I<sub>yy</sub> = 0.07    I<sub>yz</sub> = -0.13  
I<sub>zx</sub> = 0.00    I<sub>zy</sub> = -0.13    I<sub>zz</sub> = 0.48

HelpPrint...Copy to Clipboard

3DEXPERIENCE

3D V.R.

3DEXPERIENCE

Extend SOLIDWORKS with the 3DEXPERIENCE Platform

Connect to the 3DEXPERIENCE® platform and leverage its collaboration, product data and lifecycle management, organic shape design, simulation solutions, and more. (Subscription required.)

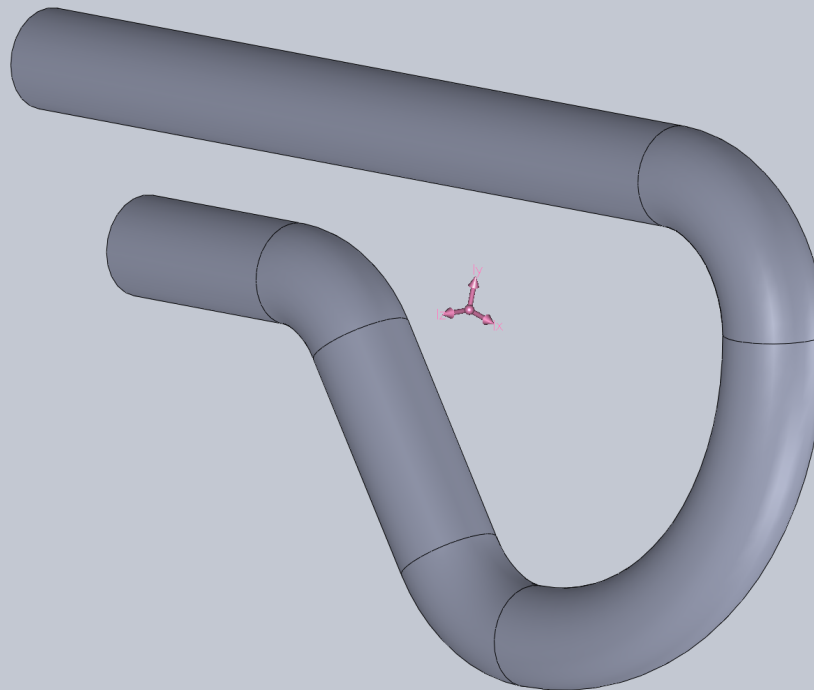
Use 3DEXPERIENCE Marketplace to source 3D content and services worldwide. (No license required.)

Let's get started

ModelMotion Study 1

SOLIDWORKS Student Edition - Academic Use Only

Editing PartSimplified InterfaceIPS



SOLIDWORKS

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.)

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

Help Print... Copy to Clipboard

Preparation

Search

Document Type (8 more...)

SOLIDWORKS Part Document (4)

SOLIDWORKS Assembly Document (3)

Microsoft Edge HTML Document (30)

motor casing...

bowl and chu...

motor casing...

pin.sldprt

pin.sldprt

button.sldprt

Dome.exr

Dome.exr

Dome.png

SOLIDWORKS Student Edition - Academic Use Only

Editing Part Simplified Interface IPS