

SOLIDWORKS interface showing the Mass Properties dialog box for a Trombone model.

**Mass Properties Dialog Box:**

- Trombone** (Selected)
- 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 Trombone  
Configuration: Default  
Coordinate system: -- default --
- Mass = 1.34 pounds
- Volume = 37.15 cubic inches
- Surface area = 1233.94 square inches
- Center of mass: ( inches )  
X = 51.77  
Y = 21.44  
Z = 41.03
- Principal axes of inertia and principal moments of inertia: ( pounds \* square inches )  
Taken at the center of mass.  
Ix = ( 0.00, 0.99, -0.11 ) Px = 21.43  
Iy = ( 0.00, 0.11, 0.99 ) Py = 505.18  
Iz = ( 1.00, 0.00, 0.00 ) Pz = 525.74
- Moments of inertia: ( pounds \* square inches )  
Taken at the center of mass and aligned with the output coordinate system. (Using positive tensor notation.)  
Lxx = 525.74 Lxy = 0.00 Lxz = 0.00  
Lyx = 0.00 Lyy = 26.86 Lyz = -50.94  
Lzx = 0.00 Lzy = -50.94 Lzz = 499.75
- Moments of inertia: ( pounds \* square inches )  
Taken at the output coordinate system. (Using positive tensor notation.)  
Ixx = 3402.71 Ixy = 1489.89 Ixz = 2850.97  
Iyx = 1489.89 Iyy = 5883.43 Iyz = 1130.02  
Izx = 2850.97 Izy = 1130.02 Izz = 4713.66
- Help** **Print...** **Copy to Clipboard**

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- Display State-1

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Slide

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Slide

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 Slide  
Configuration: Default  
Coordinate system: -- default --

Density = 0.04 pounds per cubic inch

Mass = 0.53 pounds

Volume = 14.75 cubic inches

Surface area = 492.31 square inches

Center of mass: ( inches )  
X = 0.00  
Y = -14.54  
Z = 0.00

Principal axes of inertia and principal moments of inertia: ( pounds \* square inches )  
Taken at the center of mass.  
Ix = ( 0.00, 1.00, 0.00 ) Px = 4.54  
Iy = ( 0.00, 0.00, 1.00 ) Py = 62.90  
Iz = ( 1.00, 0.00, 0.00 ) Pz = 67.31

Moments of inertia: ( pounds \* square inches )  
Taken at the center of mass and aligned with the output coordinate system. (Using positive tensor notation.)  
Lxx = 67.31 Lxy = 0.00 Lxz = 0.00  
Lyx = 0.00 Lyy = 4.54 Lyz = 0.00  
Lzx = 0.00 Lzy = 0.00 Lzz = 62.90

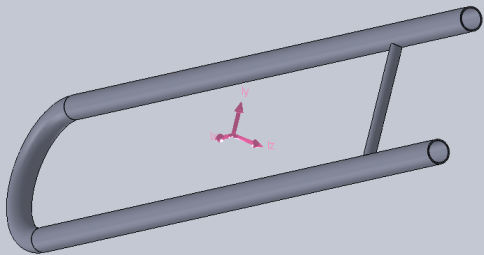
Moments of inertia: ( pounds \* square inches )  
Taken at the output coordinate system. (Using positive tensor notation.)  
Ixx = 180.03 Ixy = 0.00 Ixz = 0.00  
Iyx = 0.00 Iyy = 4.54 Iyz = 0.00  
Izx = 0.00 Izy = 0.00 Izz = 175.63

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**SOLIDWORKS** Mouth Piece mass

Sketch Line Corner Rectangle Circle Polygon 3 Point Arc 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

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**Mass Properties**

Mouth Piece

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 Mouth Piece

Configuration: Default

Coordinate system: -- default --

Density = 0.04 pounds per cubic inch

Mass = 0.04 pounds

Volume = 1.10 cubic inches

Surface area = 30.05 square inches

Center of mass: ( inches )

X = 0.00

Y = -3.26

Z = 0.00

Principal axes of inertia and principal moments of inertia: ( pounds \* square inches )

Taken at the center of mass.

Ix = ( 0.00, 1.00, 0.00 ) Px = 0.01

Iy = ( 0.00, 0.00, 1.00 ) Py = 0.11

Iz = ( 1.00, 0.00, 0.00 ) Pz = 0.11

Moments of inertia: ( pounds \* square inches )

Taken at the center of mass and aligned with the output coordinate system. (Using positive tensor notation.)

Lxx = 0.11 Lxy = 0.00 Lxz = 0.00

Lyx = 0.00 Lyy = 0.01 Lyz = 0.00

Lzx = 0.00 Lzy = 0.00 Lzz = 0.11

Moments of inertia: ( pounds \* square inches )

Taken at the output coordinate system. (Using positive tensor notation.)

Ixx = 0.53 Ixy = 0.00 Ixz = 0.00

Iyx = 0.00 Iyy = 0.01 Iyz = 0.00

Izx = 0.00 Izy = 0.00 Izz = 0.53

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