

# Appendix 3:

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## *Enclosure Specifications*

MASS PROPERTIES OF THE PART BOTTOM

VOLUME = 1.0385897e+00 INCH^3  
 SURFACE AREA = 3.0738034e+01 INCH^2  
 DENSITY = 9.7500000e-02 POUND / INCH^3  
 MASS = 1.0126249e-01 POUND

CENTER OF GRAVITY with respect to \_BOTTOM coordinate frame:  
 X Y Z 0.0000000e+00 2.8821818e-01 0.0000000e+00 INCH

INERTIA with respect to \_BOTTOM coordinate frame: (POUND \* INCH^2)

INERTIA TENSOR:

Ixx	Ixy	Ixz	1.4502703e-01	0.0000000e+00	1.0126064e-04
Iyx	Iyy	Iyz	0.0000000e+00	2.1065738e-01	0.0000000e+00
Izx	Izy	Izz	1.0126064e-04	0.0000000e+00	1.0263501e-01

INERTIA at CENTER OF GRAVITY with respect to \_BOTTOM coordinate frame:

(POUND \*

INCH^2)

INERTIA TENSOR:

Ixx	Ixy	Ixz	1.3661518e-01	0.0000000e+00	1.0126064e-04
Iyx	Iyy	Iyz	0.0000000e+00	2.1065738e-01	0.0000000e+00
Izx	Izy	Izz	1.0126064e-04	0.0000000e+00	9.4223166e-02

PRINCIPAL MOMENTS OF INERTIA: (POUND \* INCH^2)

I1	I2	I3	9.4222924e-02	1.3661543e-01	2.1065738e-01
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ROTATION MATRIX from \_BOTTOM orientation to PRINCIPAL AXES:

	-0.00239	1.00000	0.00000
	0.00000	0.00000	1.00000
	1.00000	0.00239	0.00000

ROTATION ANGLES from \_BOTTOM orientation to PRINCIPAL AXES (degrees):

angles about x	y	z	-90.000	0.000	-90.137
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RADII OF GYRATION with respect to PRINCIPAL AXES:

R1	R2	R3	9.6461493e-01	1.1615170e+00	1.4423280e+00	INCH
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MASS PROPERTIES OF THE PART SIDE\_A

VOLUME = 1.4798504e-01 INCH^3  
SURFACE AREA = 5.5300788e+00 INCH^2  
DENSITY = 9.7500000e-02 POUND / INCH^3  
MASS = 1.4428541e-02 POUND

CENTER OF GRAVITY with respect to \_SIDE\_A coordinate frame:  
X Y Z 3.1250000e-02 6.6213256e-03 -1.4341388e+00 INCH

INERTIA with respect to \_SIDE\_A coordinate frame: (POUND \* INCH^2)

INERTIA TENSOR:

Ixx Ixy Ixz 4.1904904e-02 -2.9855022e-06 6.4664159e-04  
Iyx Iyy Iyz -2.9855022e-06 4.0496870e-02 1.3890926e-04  
Izx Izy Izz 6.4664159e-04 1.3890926e-04 1.4456078e-03

INERTIA at CENTER OF GRAVITY with respect to \_SIDE\_A coordinate frame:

(POUND \*

INCH^2)

INERTIA TENSOR:

Ixx Ixy Ixz 1.2228310e-02 0.0000000e+00 0.0000000e+00  
Iyx Iyy Iyz 0.0000000e+00 1.0806819e-02 1.8972750e-06  
Izx Izy Izz 0.0000000e+00 1.8972750e-06 1.4308849e-03

PRINCIPAL MOMENTS OF INERTIA: (POUND \* INCH^2)

I1 I2 I3 1.4308845e-03 1.0806820e-02 1.2228310e-02

ROTATION MATRIX from \_SIDE\_A orientation to PRINCIPAL AXES:

0.00000 0.00000 -1.00000  
-0.00020 1.00000 0.00000  
1.00000 0.00020 0.00000

ROTATION ANGLES from \_SIDE\_A orientation to PRINCIPAL AXES (degrees):

angles about x y z 0.000 -90.000 0.000

RADII OF GYRATION with respect to PRINCIPAL AXES:

R1 R2 R3 3.1491335e-01 8.6544154e-01 9.2060221e-01 INCH

MASS PROPERTIES OF THE PART SIDE\_B

VOLUME = 1.4152990e-01 INCH^3  
SURFACE AREA = 5.2703394e+00 INCH^2  
DENSITY = 9.7500000e-02 POUND / INCH^3  
MASS = 1.3799165e-02 POUND

CENTER OF GRAVITY with respect to \_SIDE\_B coordinate frame:  
X Y Z 3.1250000e-02 -1.6675690e-02 -1.4375000e+00 INCH

INERTIA with respect to \_SIDE\_B coordinate frame: (POUND \*  
INCH^2)

INERTIA TENSOR:

Ixx Ixy Ixz 4.1384071e-02 7.1909561e-06 6.1988436e-04  
Iyx Iyy Iyz 7.1909561e-06 4.0039331e-02 -3.3078398e-04  
Izx Izy Izz 6.1988436e-04 -3.3078398e-04 1.3806755e-03

INERTIA at CENTER OF GRAVITY with respect to \_SIDE\_B coordinate  
frame:

(POUND \*

INCH^2)

INERTIA TENSOR:

Ixx Ixy Ixz 1.2865553e-02 0.0000000e+00 0.0000000e+00  
Iyx Iyy Iyz 0.0000000e+00 1.1511174e-02 0.0000000e+00  
Izx Izy Izz 0.0000000e+00 0.0000000e+00 1.3633625e-03

PRINCIPAL MOMENTS OF INERTIA: (POUND \* INCH^2)

I1 I2 I3 1.3633625e-03 1.1511174e-02 1.2865553e-02

ROTATION MATRIX from \_SIDE\_B orientation to PRINCIPAL AXES:

0.00000 0.00000 -1.00000  
0.00000 1.00000 0.00000  
1.00000 0.00000 0.00000

ROTATION ANGLES from \_SIDE\_B orientation to PRINCIPAL AXES  
(degrees):

angles about x y z 0.000 -90.000 0.000

RADII OF GYRATION with respect to PRINCIPAL AXES:

R1 R2 R3 3.1432525e-01 9.1334197e-01 9.6557903e-01 INCH

MASS PROPERTIES OF THE PART TOP

VOLUME = 5.1580983e-01 INCH^3  
SURFACE AREA = 1.7274537e+01 INCH^2  
DENSITY = 9.7500000e-02 POUND / INCH^3  
MASS = 5.0291459e-02 POUND

CENTER OF GRAVITY with respect to \_TOP coordinate frame:

X Y Z 0.0000000e+00 3.1250000e-02 1.4375000e+00 INCH

INERTIA with respect to \_TOP coordinate frame: (POUND \* INCH^2)

INERTIA TENSOR:

Ixx Ixy Ixz 1.3857928e-01 0.0000000e+00 0.0000000e+00  
Iyx Iyy Iyz 0.0000000e+00 1.7308124e-01 -2.2591866e-03  
Izx Izy Izz 0.0000000e+00 -2.2591866e-03 3.4632924e-02

INERTIA at CENTER OF GRAVITY with respect to \_TOP coordinate frame:

(POUND \* INCH^2)

INERTIA TENSOR:

Ixx Ixy Ixz 3.4607584e-02 0.0000000e+00 0.0000000e+00  
Iyx Iyy Iyz 0.0000000e+00 6.9158654e-02 0.0000000e+00  
Izx Izy Izz 0.0000000e+00 0.0000000e+00 3.4583811e-02

PRINCIPAL MOMENTS OF INERTIA: (POUND \* INCH^2)

I1 I2 I3 3.4583811e-02 3.4607584e-02 6.9158654e-02

ROTATION MATRIX from \_TOP orientation to PRINCIPAL AXES:

0.00000 1.00000 0.00000  
0.00000 0.00000 1.00000  
1.00000 0.00000 0.00000

ROTATION ANGLES from \_TOP orientation to PRINCIPAL AXES (degrees):  
angles about x y z -90.000 0.000 -90.000

RADII OF GYRATION with respect to PRINCIPAL AXES:

R1 R2 R3 8.2925731e-01 8.2954228e-01 1.1726709e+00 INCH