VOLUME = 7.0086099e+06 MM^3

SURFACE AREA = 2.9005647e+06 MM^2

AVERAGE DENSITY = 1.7253509e-06 KILOGRAM / MM^3

MASS = 1.2092311e+01 KILOGRAM

CENTER OF GRAVITY with respect to URDF\_TORSO-YAW coordinate frame:

X Y Z -1.9591632e+01 2.3519432e-01 1.2437790e+02 MM

INERTIA with respect to URDF\_TORSO-YAW coordinate frame: (KILOGRAM \* MM^2)

INERTIA TENSOR:

Ixx Ixy Ixz 3.9633591e+05 6.0420291e+01 3.7746496e+04

Iyx Iyy Iyz 6.0420291e+01 3.7844817e+05 -1.8161589e+03

Izx Izy Izz 3.7746496e+04 -1.8161589e+03 1.8156922e+05

INERTIA at CENTER OF GRAVITY with respect to URDF\_TORSO-YAW coordinate frame: (KILOGRAM \* MM^2)

INERTIA TENSOR:

Ixx Ixy Ixz 2.0926885e+05 4.7008497e+00 8.2803626e+03

Iyx Iyy Iyz 4.7008497e+00 1.8674037e+05 -1.4624228e+03

Izx Izy Izz 8.2803626e+03 -1.4624228e+03 1.7692713e+05

PRINCIPAL MOMENTS OF INERTIA: (KILOGRAM \* MM^2)

I1 I2 I3 1.7476138e+05 1.8690472e+05 2.1127025e+05

ROTATION MATRIX from URDF\_TORSO-YAW orientation to PRINCIPAL AXES:

-0.23172 0.04106 -0.97192

0.11797 0.99292 0.01382

0.96560 -0.11146 -0.23492

ROTATION ANGLES from URDF\_TORSO-YAW orientation to PRINCIPAL AXES (degrees):

angles about x y z-176.633 -76.389 -169.952

RADII OF GYRATION with respect to PRINCIPAL AXES:

R1 R2 R3 1.2021760e+02 1.2432414e+02 1.3217962e+02 MM

---------------------------------------------

MASS PROPERTIES OF COMPONENTS OF THE ASSEMBLY

(in assembly units and the URDF\_TORSO-YAW coordinate frame)

DENSITY MASS C.G.: X Y Z

PH0001A0 MATERIAL: UNKNOWN

1.72535e-06 1.20923e+01 -1.95916e+01 2.35194e-01 1.24378e+02