```
SURFACE AREA = 3.0310356e+05 MM<sup>2</sup>
AVERAGE DENSITY = 2.8238361e-06 KILOGRAM / MM^3
MASS = 2.2835211e+00 KILOGRAM
CENTER OF GRAVITY with respect to DOOSAN_MOUNT_ORIGIN coordinate frame:
             -2.7197381e+01 -4.8674567e-01 8.2216345e+01 MM
INERTIA with respect to DOOSAN MOUNT ORIGIN coordinate frame: (KILOGRAM * MM^2)
INERTIA TENSOR:
Ixx Ixy Ixz 2.4597522e+04 -1.0388161e+02 6.5839595e+03
Iyx Iyy Iyz -1.0388161e+02 3.0274954e+04 1.1633630e+02
Izx Izy Izz 6.5839595e+03 1.1633630e+02 9.9307971e+03
INERTIA at CENTER OF GRAVITY with respect to DOOSAN_MOUNT_ORIGIN coordinate frame:
 (KILOGRAM * MM^2)
INERTIA TENSOR:
Ixx Ixy Ixz 9.1614576e+03 -7.3651887e+01 1.4778482e+03
Iyx Iyy Iyz -7.3651887e+01 1.3150316e+04 2.4953320e+01
Izx Izy Izz 1.4778482e+03 2.4953320e+01 8.2411412e+03
PRINCIPAL MOMENTS OF INERTIA: (KILOGRAM * MM^2)
I1 I2 I3 7.1527906e+03 1.0248447e+04 1.3151677e+04
ROTATION MATRIX from DOOSAN_MOUNT_ORIGIN orientation to PRINCIPAL AXES:
                     0.80510
      -0.59284
                                    -0.01865
                      0.01534
      -0.01063
                                     0.99983
       0.80525
                      0.59294
                                    -0.00053
ROTATION ANGLES from DOOSAN_MOUNT_ORIGIN orientation to PRINCIPAL AXES (degrees):
angles about x y z -90.031
                                     -1.069
                                                   -126.366
RADII OF GYRATION with respect to PRINCIPAL AXES:
R1 R2 R3 5.5967414e+01 6.6992552e+01 7.5890609e+01 MM
_____
MASS PROPERTIES OF COMPONENTS OF THE ASSEMBLY
(in assembly units and the DOOSAN_MOUNT_ORIGIN coordinate frame)
   DENSITY
                       MASS
                                     C.G.: X
                        MG0004A0
                                            MATERIAL:
ERGAL70
         2.81000e-06 2.40560e-01 -1.95007e-02 -2.31204e-02 1.60294e+01
                        MG0001A0
                                            MATERIAL:
ERGAL70
         2.81000e-06 2.03692e-01 -1.51726e-01 0.00000e+00 7.48294e+00
           V6-12_UNI5931-IS04762
                                            MATERIAL:
AISI304
         7.78000e-06 5.08125e-03 -1.76777e+01 -1.76777e+01 4.47776e+00
           V6-12_UNI5931-IS04762
                                            MATERIAL:
AISI304
         7.78000e-06 5.08125e-03 1.76777e+01 -1.76777e+01 4.47776e+00
           V6-12_UNI5931-IS04762
                                            MATERIAL:
AISI304
         7.78000e-06 5.08125e-03 1.76777e+01 1.76777e+01 4.47776e+00
           V6-12_UNI5931-IS04762
                                            MATERIAL:
AISI304
         7.78000e-06 5.08125e-03 -1.76777e+01 1.76777e+01 4.47776e+00
           V4-12_UNI5931-IS04762
                                            MATERIAL:
AISI304
         7.78000e-06 1.92215e-03 5.20150e-16 -5.40000e+01 8.49470e+00
           V4-12_UNI5931-IS04762
                                           MATERIAL:
```

VOLUME = 8.0865923e+05 MM^3

| AISI304 |  | 4.67654e+01 -2.70000e+01               | 8.49470e+00 |
|---------|--|--|-------------|
| AISI304 | V4-12_UNI5931-IS04762<br>7.78000e-06 1.92215e-03 | MATERIAL:<br>4.67654e+01 2.70000e+01   | 8.49470e+00 |
| AISI304 | V4-12_UNI5931-ISO4762                            | MATERIAL:                              |             |
| AISI304 | 7.78000e-06 1.92215e-03<br>V4-12_UNI5931-ISO4762 | 5.20150e-16 5.40000e+01<br>MATERIAL:   | 8.49470e+00 |
|         | 7.78000e-06 1.92215e-03<br>V4-12_UNI5931-IS04762 | -4.67654e+01 2.70000e+01<br>MATERIAL:  | 8.49470e+00 |
| AISI304 | 7.78000e-06 1.92215e-03<br>V5-8_UNI5931-IS04762  | -4.67654e+01 -2.70000e+01<br>MATERIAL: | 8.49470e+00 |
| AISI304 | 7.78000e-06 2.86274e-03<br>V5-8_UNI5931-IS04762  | -1.30480e+01 -1.44913e+01              | 1.72038e+01 |
| AISI304 | 7.78000e-06 2.86274e-03                          | -1.90739e+01 -4.05428e+00              | 1.72038e+01 |
| AISI304 | V5-8_UNI5931-IS04762<br>7.78000e-06 2.86274e-03  | MATERIAL:<br>-6.02583e+00 1.85456e+01  | 1.72038e+01 |
| AISI304 | V5-8_UNI5931-IS04762                             | MATERIAL:                              |             |
| AISI304 | 7.78000e-06 2.86274e-03<br>V5-8_UNI5931-ISO4762  | 6.02583e+00 1.85456e+01<br>MATERIAL:   | 1.72038e+01 |
| ATCT204 | 7.78000e-06 2.86274e-03<br>V5-8_UNI5931-ISO4762  | 1.90739e+01 -4.05428e+00<br>MATERIAL:  | 1.72038e+01 |
| AISI304 | 7.78000e-06 2.86274e-03<br>MG0007A0              | 1.30480e+01 -1.44913e+01<br>MATERIAL:  | 1.72038e+01 |
| ERGAL70 | 2.81000e-06 1.74077e-01<br>DEWALT TOP CAP VER 02 | -2.02027e-02 -3.32289e-02<br>MATERIAL: | 3.50016e+01 |
| UNKNOWN | 2.05151e-06 9.57594e-02                          | 4.06590e+00 -4.94013e-02               | 5.31177e+01 |
| AISI304 | V5-10_UNI5931-IS04762<br>7.78000e-06 3.07831e-03 | MATERIAL:<br>-1.30480e+01 -1.44913e+01 | 5.36452e+01 |
| AISI304 | V5-10_UNI5931-IS04762                            | MATERIAL:                              |             |
| AISI304 | V5-10_UNI5931-ISO4762                            | 6.02583e+00 1.85456e+01<br>MATERIAL:   | 5.36452e+01 |
| ATCT204 | 7.78000e-06 3.07831e-03<br>V5-10_UNI5931-IS04762 | -6.02583e+00 1.85456e+01<br>MATERIAL:  | 5.36452e+01 |
| AISI304 | 7.78000e-06 3.07831e-03<br>V5-10_UNI5931-ISO4762 | -1.90739e+01 -4.05428e+00<br>MATERIAL: | 5.36452e+01 |
| AISI304 | 7.78000e-06 3.07831e-03<br>V5-10_UNI5931-IS04762 | 1.30480e+01 -1.44913e+01<br>MATERIAL:  | 5.36452e+01 |
| AISI304 | 7.78000e-06 3.07831e-03                          | 1.90739e+01 -4.05428e+00               | 5.36452e+01 |
| AISI304 | V3-4_UNI5931-IS04762<br>7.78000e-06 6.79003e-04  | MATERIAL:<br>3.71590e+01 -1.20000e+01  | 4.59889e+01 |
| AISI304 | V3-4_UNI5931-IS04762                             | MATERIAL:                              |             |
| AISI304 | 7.78000e-06 6.79003e-04<br>V3-4_UNI5931-ISO4762  | 3.71590e+01 1.20000e+01<br>MATERIAL:   | 4.098896+01 |
|         | 7.78000e-06 6.79003e-04                          | 1.71590e+01 -3.20000e+01               | 4.59889e+01 |

| AISI304 | V3-4_UNI5   | 931-IS04762                | MA <sup>-</sup> | TERIAL:                 |             |
|---------|-------------|----------------------------|-----------------|-------------------------|-------------|
| AISI304 |             | 6.79003e-04<br>931-ISO4762 |                 | -2.90000e+01<br>TERIAL: | 4.59889e+01 |
| A131304 |             | 6.79003e-04<br>931-IS04762 |                 | -1.20000e+01<br>TERIAL: | 4.59889e+01 |
| AISI304 |             | 6.79003e-04<br>931-IS04762 |                 | 1.20000e+01<br>TERIAL:  | 4.59889e+01 |
| AISI304 | 7.78000e-06 | 6.79003e-04                | -1.78410e+01    | 2.90000e+01             | 4.59889e+01 |
| AISI304 | _           | 931-IS04762<br>6.79003e-04 |                 | TERIAL:<br>3.20000e+01  | 4.59889e+01 |
| ERGAL70 |             | EWALT-DUMMY                | TERIAL:         | 1.330030101             |             |
|         | 2.81000e-06 | 8.52134e-01<br>5AH_LI_ION  |                 | 0.00000e+00<br>TERIAL:  | 1.18916e+02 |
| ERGAL70 | 2.81000e-06 | 6.44363e-01                | -9.48700e+01    | -1.70000e+00            | 1.05725e+02 |