

Key:

● denotes a joint centre

Segments P, T, C, A1, A2, B1, B2, J1, J2, K1, K2 are separated by alternating colors.

Levels are denoted as **L<s>#** with <s> roughly denoting a body part, and # denoting the #-th level in the segment.

Measurements are denoted as **L<s>#<t>**, with <t> denoting the type of measurement.

There are 4 types of measurements:

L denotes a length measurement, not necessarily measured from previous level:

Ls1L-Ls5L measured from **Ls0**; **Ls6L-Ls8L** measured from **Ls5**

La2L-La4L measured from **La0**; **La5L-La7L** measured from **La4** (same for segment b)

Lj1L, Lj3L-Lj5L measured from **Lj0**; **Lj6L, Lj8L-Lj9L** measured from **Lj5** (same for segment k)

p denotes a perimeter measurement, must have $2 < p/w < \pi$

w denotes a width (medio-lateral, or side to side) measurement

d denotes a depth (anterior-posterior, or front to back) measurement

level, label, measurements needed

Ls8¹ top of head **L**

Ls7 above ear **L,p**

Ls6 beneath nose **L,p**

Ls5² acromion **L,p**

Ls4³ shoulder joint centre **L,w,d**

Ls3 nipple **L,p,w**

Ls2 lowest front rib **L,p,w**

Ls1 umbilicus **L,p,w**

Ls0 hip joint centre **L,p,w**

La0 shoulder joint centre **p**

La1⁴ mid-arm **p**

La2 elbow joint centre **L,p**

La3 maximum forearm perimeter **L,p**

La4 wrist joint centre **L,p,w**

La5 base of thumb **L,p,w**

La6 knuckles **L,p,w**

La7 fingernails **L,p,w**

segment, label, solids⁹

C chest-head **s3-s7**

T thorax **s2**

P pelvis **s0-s1**

A1 left upper arm **a0-a1**

A2 left forearm-hand **a2-a6**

B1 right upper arm **b0-b1**

B2 right forearm-hand **b2-b6**

J1 left thigh **j0-j2**

J2 left shank-foot **j3-j8**

K1 right thigh **k0-k2**

K2 right shank-foot **k3-k8**

Lj0⁵ hip joint centre

Lj1 crotch **L,p**

Lj2⁶ mid-thigh **p**

Lj3 knee joint centre **L,p**

Lj4 maximum calf perimeter **L,p**

Lj5 ankle joint centre **L,p**

Lj6⁷ heel **L,p,d**

Lj7⁸ arch **p**

Lj8 ball **L,p,w**

Lj9 toe nails **L,p,w**

Notes:

Total mass can be measured in order to scale the default densities used for the solids (otherwise, mass is estimated).

1 s0 is the only semi-ellipsoidal solid.

2 two stadia at this level, one for s4 and one for s5. The parameters for the s4 stadium are calculated from Ls4's stadium. Ls5 perimeter measured around neck.

3 depth is measured in lieu of perimeter since arms interfere and width is measured with respect to the shoulder joint centers.

4 La1L is not measured, but is instead set as half of La2L.

5 stadium (circle) perimeter is calculated from the dimensions of the stadium at Ls0.

6 Lj2L is not measured, but is instead set as the average of Lj1L and Lj3L.

7 Lj6's (and Lk6's) stadia are the only stadia oriented anteroposteriorly.

8 Lj7L is not measured, but is instead set as the average of Lj6L and Lj8L.

9 Yeadon's 1990 paper indexes the solids from 1, while this formulations indexes from 0.