

# BRUCE V1.4

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BODY:

Mass = 1.31688922 kilograms

Center of mass: ( meters )

X = 0.02259605

Y = -0.00011305

Z = 0.06140054

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

$I_{xx} = 0.01335430$

$I_{xy} = -0.00000336$

$I_{xz} = 0.00182725$

$I_{yx} = -0.00000336$

$I_{yy} = 0.01023631$

$I_{yz} = -0.00001163$

$I_{zx} = 0.00182725$

$I_{zy} = -0.00001163$

$I_{zz} = 0.00547100$

#### HIP\_YAW\_R

Mass = 0.63756264 kilograms

Center of mass: ( meters )

X = 0.00000271

Y = -0.00024824

Z = 0.00522427

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00048541

Ixy = 0.00000112

Ixz = 0.00000174

Iyx = 0.00000112

Iyy = 0.00161689

Iyz = -0.00000702

Izx = 0.00000174

Izy = -0.00000702

Izz = 0.00152129

#### HIP\_ROLL\_R

Mass = 0.72848988 kilograms

Center of mass: ( meters )

X = 0.00167429

Y = 0.14071429

Z = -0.00868170

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.01819732

Ixy = 0.00019343

Ixz = 0.00000168

Iyx = 0.00019343

Iyy = 0.00050614

Iyz = -0.00065644

Izx = 0.00000168

Izy = -0.00065644

Izz = 0.01792426

#### HIP\_PITCH\_R

Mass = 0.72848988 kilograms

Center of mass: ( meters )

X = 0.14071429

Y = -0.00868170

Z = 0.00167429

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00050614

Ixy = -0.00065644

Ixz = 0.00019343

Iyx = -0.00065644

Iyy = 0.01792426

Iyz = 0.00000168

Izx = 0.00019343

Izy = 0.00000168

Izz = 0.01819732

#### KNEE\_PITCH\_R

Mass = 0.09566544 kilograms

Center of mass: ( meters )

X = 0.07293079

Y = 0.01746447

Z = 0.00216432

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00010962

Ixy = 0.00005276

Ixz = 0.00001568

Iyx = 0.00005276

Iyy = 0.00101941

Iyz = -0.00000668

Izx = 0.00001568

Izy = -0.00000668

Izz = 0.00108317

#### ANKLE\_PITCH\_R

Mass = 0.02762647 kilograms

Center of mass: ( meters )

X = 0.01207750

Y = 0.00197460

Z = 0.00029511

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00002043

Ixy = 0.00000287

Ixz = -0.00000003

Iyx = 0.00000287

Iyy = 0.00000620

Iyz = -0.00000024

Izx = -0.00000003

Izy = -0.00000024

Izz = 0.00002588

#### HIP\_YAW\_L

Mass = 0.63738621 kilograms

Center of mass: ( meters )

X = 0.00000000

Y = -0.00020849

Z = 0.00528032

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00048520

Ixy = 0.00000000

Ixz = -0.00000016

Iyx = 0.00000000

Iyy = 0.00161810

Iyz = -0.00000750

Izx = -0.00000016

Izy = -0.00000750

Izz = 0.00152105

#### HIP\_ROLL\_L

Mass = 0.72062828 kilograms

Center of mass: ( meters )

X = -0.00174716

Y = 0.14244670

Z = -0.00832054

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.01819268

Ixy = -0.00019320

Ixz = 0.00000032

Iyx = -0.00019320

Iyy = 0.00048935

Iyz = -0.00066556

Izx = 0.00000032

Izy = -0.00066556

Izz = 0.01792901

#### HIP\_PITCH\_L

Mass = 0.72062828 kilograms

Center of mass: ( meters )

X = 0.14244670

Y = -0.00832054

Z = -0.00174716

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00048935

Ixy = -0.00066556

Ixz = -0.00019320

Iyx = -0.00066556

Iyy = 0.01792901

Iyz = 0.00000032

Izx = -0.00019320

Izy = 0.00000032

Izz = 0.01819268

#### KNEE\_PITCH\_L

Mass = 0.09526543 kilograms

Center of mass: ( meters )

X = 0.07309957

Y = 0.01781024

Z = -0.00219767

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00010799

Ixy = 0.00005259

Ixz = -0.00001742

Iyx = 0.00005259

Iyy = 0.00101705

Iyz = 0.00000607

Izx = -0.00001742

Izy = 0.00000607

Izz = 0.00107920

#### ANKLE\_PITCH\_L

Mass = 0.02748291 kilograms

Center of mass: ( meters )

X = 0.01233982

Y = 0.00253004

Z = -0.00030441

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00002042

Ixy = 0.00000291

Ixz = 0.00000003

Iyx = 0.00000291

Iyy = 0.00000627

Iyz = 0.00000024

Izx = 0.00000003

Izy = 0.00000024

Izz = 0.00002602

#### SHOULDER\_PITCH\_R

Mass = 0.04931686 kilograms

Center of mass: ( meters )

X = 0.00000000

Y = -0.00038323

Z = -0.01413682

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00002507

Ixy = 0.00000000

Ixz = 0.00000000

Iyx = 0.00000000

Iyy = 0.00002403

Iyz = 0.00000018

Izx = 0.00000000

Izy = 0.00000018

Izz = 0.00000832

#### SHOULDER\_ROLL\_R

Mass (user-overridden) = 0.02400000 kilograms

Center of mass: ( meters )

X = 0.05709386

Y = -0.00419463

Z = 0.00093738

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00000775

Ixy = -0.00000690

Ixz = 0.00000262

Iyx = -0.00000690

Iyy = 0.00012556

Iyz = -0.00000011

Izx = 0.00000262

Izy = -0.00000011

Izz = 0.00012619

#### ELBOW\_PITCH\_R

Mass = 0.05244037 kilograms

Center of mass: ( meters )

X = 0.02178843

Y = 0.00000000

Z = 0.00036040

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00000753

Ixy = 0.00000000

Ixz = 0.00000018

Iyx = 0.00000000

Iyy = 0.00007261

Iyz = 0.00000000

Izx = 0.00000018

Izy = 0.00000000

Izz = 0.00007103

#### SHOULDER\_PITCH\_L

Mass = 0.04931686 kilograms

Center of mass: ( meters )

X = 0.00000000

Y = 0.00038323

Z = -0.01413682

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00002507

Ixy = 0.00000000

Ixz = 0.00000000

Iyx = 0.00000000

Iyy = 0.00002403

Iyz = -0.00000018

Izx = 0.00000000

Izy = -0.00000018

Izz = 0.00000832

#### SHOULDER\_ROLL\_L

Mass = 0.03136525 kilograms

Center of mass: ( meters )

X = 0.05709387

Y = 0.00419463

Z = 0.00094155

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00001013

Ixy = 0.00000902

Ixz = 0.00000342

Iyx = 0.00000902

Iyy = 0.00016409

Iyz = 0.00000015

Izx = 0.00000342

Izy = 0.00000015

Izz = 0.00016491

#### ELBOW\_PITCH\_L

Mass = 0.05244037 kilograms

Center of mass: ( meters )

X = 0.02178843

Y = 0.00000000

Z = 0.00036040

Moments of inertia: ( kilograms \* square meters )

Taken at the output coordinate system.

Ixx = 0.00000753

Ixy = 0.00000000

Ixz = 0.00000018

Iyx = 0.00000000

Iyy = 0.00007261

Iyz = 0.00000000

Izx = 0.00000018

Izy = 0.00000000

Izz = 0.00007103