

Animation of a LDRAW Minifig in Blender

- 1 Files
 - 1.1 LDRAW-Importer
 - 1.2 LDRAW-Files
- 2 Prerequisites
 - 2.1 copy the oldLDRCONFIG.LDR into a convenient place
 - 2.2 Install the LDRAW-Importer
 - 2.2.1 place the *.py files into your ~/.blender/scripts directory

may not exist! position is system dependent! attention mac (bundle), where are the files under windows?
 - 2.2.2 adjust the preferences
 - 2.2.2.1 edit the defaults in the files (recommended)
 - 2.2.2.1.1 datimporter.py

```

33 class ImporterOptions:
34     def __init__(self):
35         self.defaults = {'ldrawPath': "/Users/cmuelle/Library/
36             d=Blender.Registry.GetKey('dat_import',True)
37

```

- 2.2.2.1.2 colorimport.py

```

15
16 class ImporterOptions:
17     def __init__(self):
18         self.defaults = {'ColorProfile': "/Users/cmuelle/Libr
19             d = Blender.Registry.GetKey('ldc_import',True)
20

```

- 2.2.2.2 by starting from blender (not recommended)
 - 2.2.2.2.1 start the importer

ERROR! afterwards

 - 2.2.2.2.1.1 ldc_importer
 - 2.2.2.2.1.1.1 adjust the path to the color configuration file
 - 2.2.2.2.2 start the importer a second time

try to import the minifig.ldr file

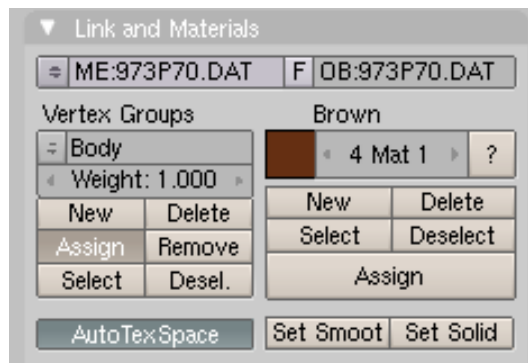
 - 2.2.2.2.2.1 dat_importer
 - 2.2.2.2.2.1.1 switch of hires and step usage
 - 2.2.2.2.2.1.2 adjust the path to the ldraw library
- 3 Preparing the Minifig for animation
 - 3.1 from a clean blender, import the minifig.ldr file from the LDRAW-Files folder
 - 3.1.1 0_afterImport
 - 3.2 select the Hip and Body and join them
 - 3.3 select head and hair and join them
 - 3.4 switch to the editing menu (F9)
 - 3.5 for all objects of the minifig

beschreibung warum das jetzt

 - 3.5.1 select object
 - 3.5.2 enter edit mode
 - 3.5.3 select all vertices
 - 3.5.4 create new Vertex Group
 - 3.5.4.1 select new
 - 3.5.4.2 name the vertex group
 - 3.5.4.3 assign

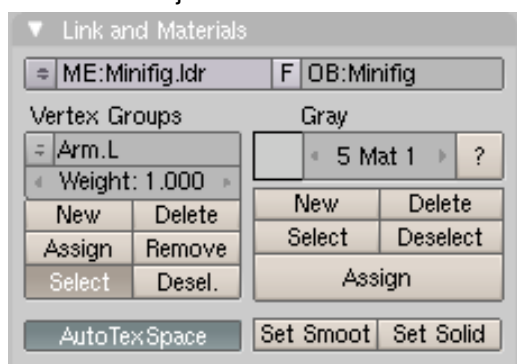
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- 3.5.4.4

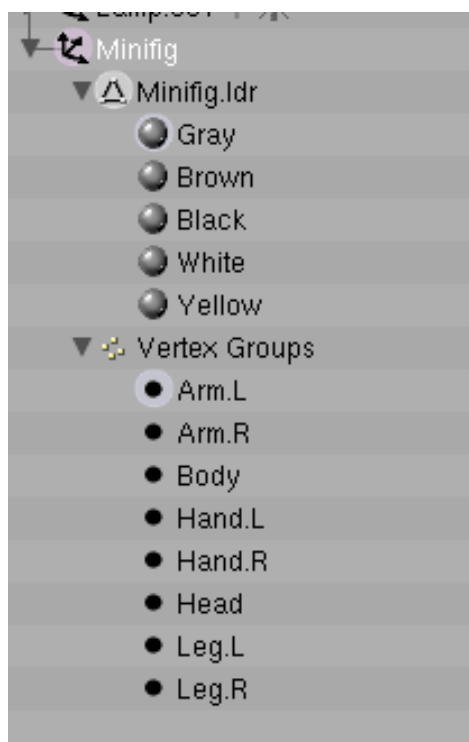


- 3.6 select all minifig objects
use the outliner with outliner view
- 3.7 make the parent (minifig.ldr) active and join the meshed (ctrl-j)
wenn es nicht klapt. vertex groups kontrollieren. (assign)
 - 3.7.1 1_afterJoin
- 3.8 select next object

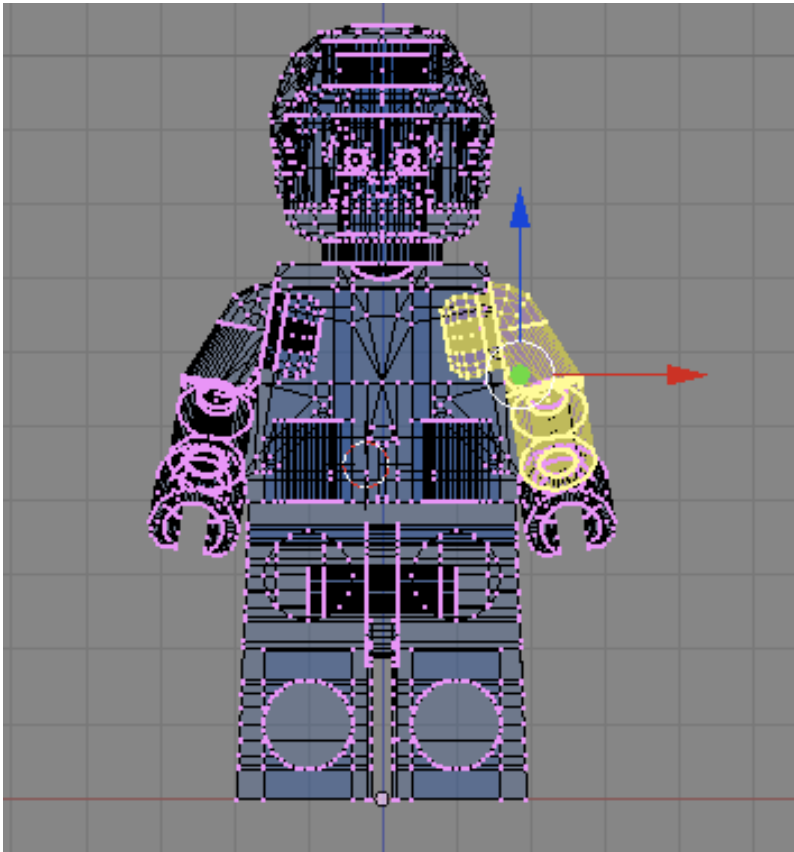
- 3.9



- 3.10



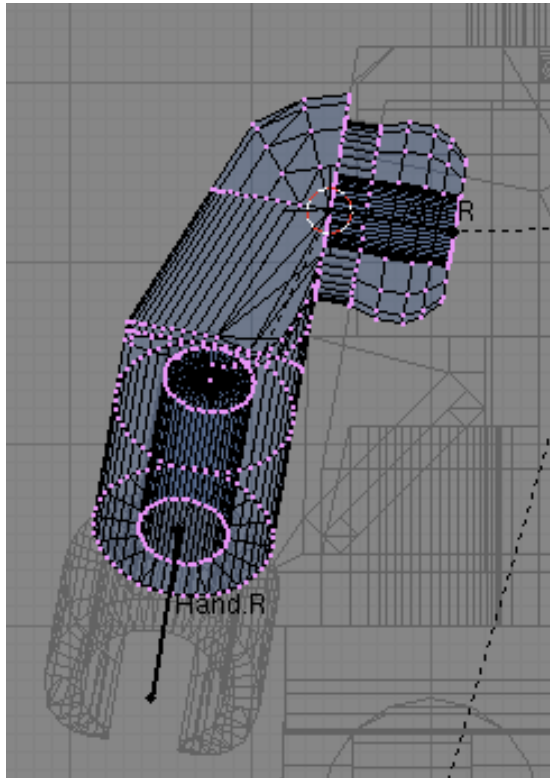
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- 3.11
 - 3.12 1_afterJoin
 - 4 Building the Armature
 - 4.1 4_Armature
 - 4.2 place the cursor centered between the legs and add an armature.
 - 4.3 stretch the bone till it is placed centered between the arms and name it the same as the vertex group of the combined body and hips ('Body')
 - 4.4 move the cursor to the top of the bone 'Body' and add bones for the left and right arm
 - 4.5 align the arm bones along their axis of freedom
 - 4.5.1 escape to object mode
 - 4.5.2 select the minifig
 - 4.5.3 editmode
 - 4.5.4 select the vertex group for the right arm
 - 4.5.5 invert selection
 - 4.5.6 hide
- after aligning they can be easily rotated along their local y-axis in pose mode (r y y)*

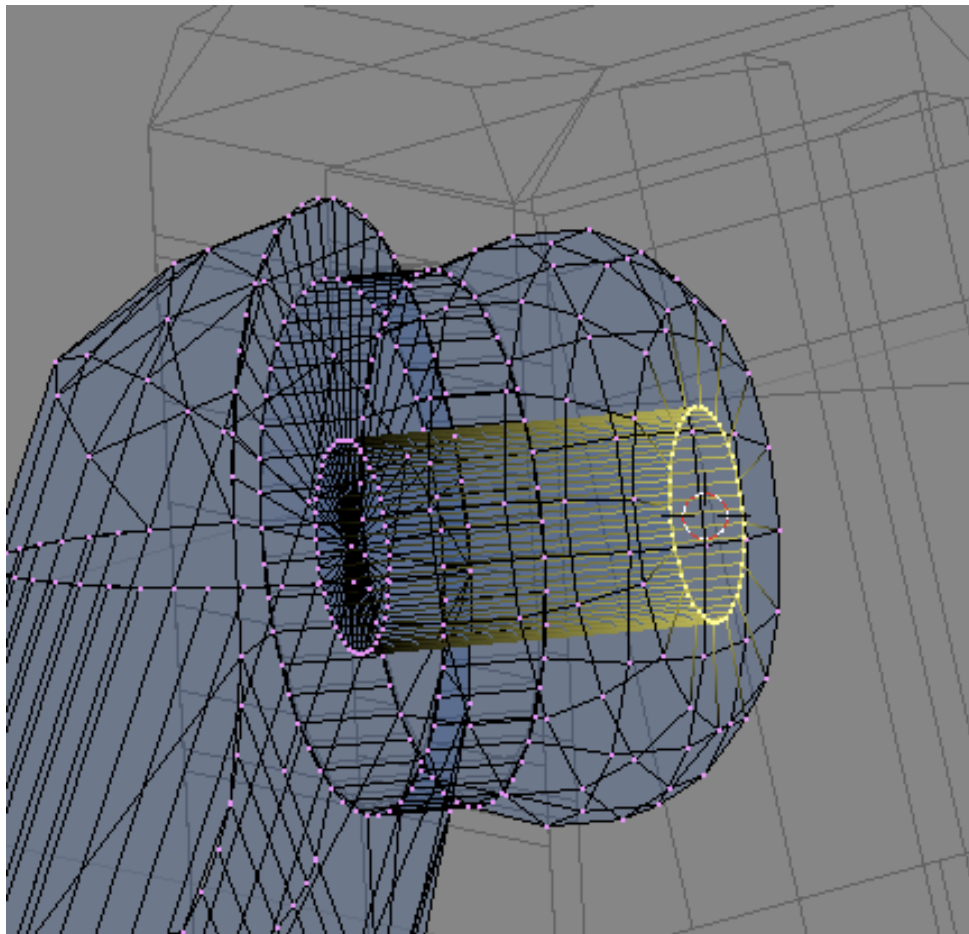
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- 4.5.6.1



- 4.5.7 select the vertices which made up the most inner ring

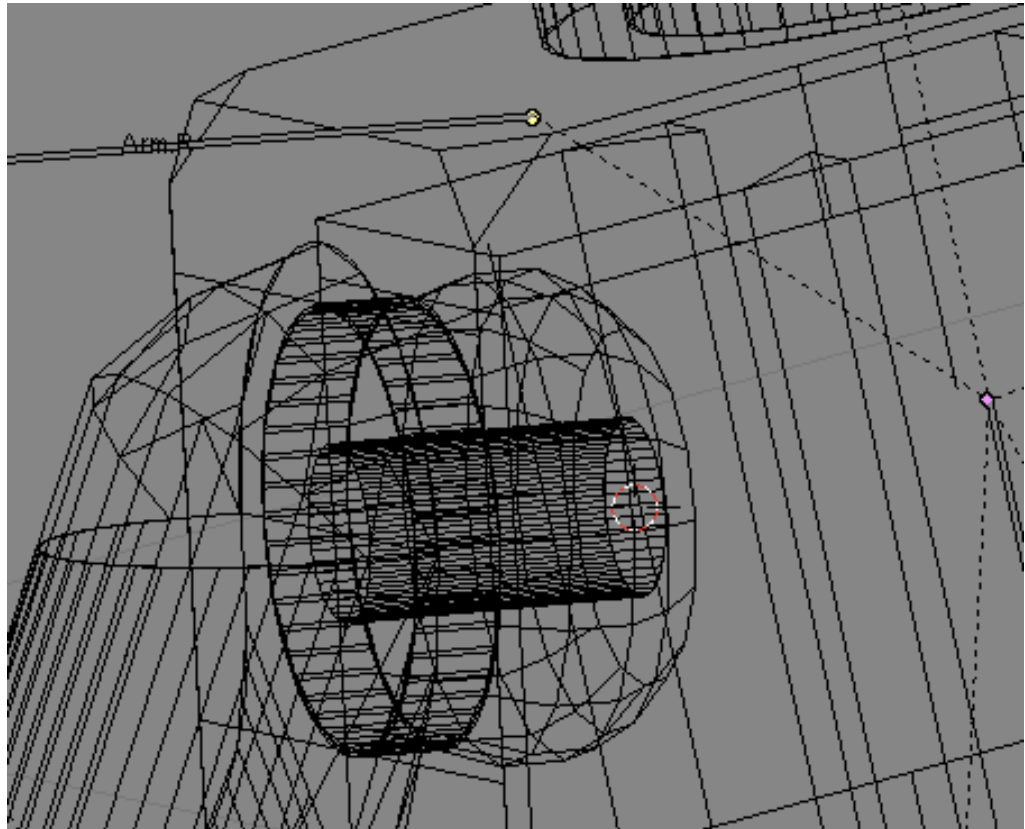
- 4.5.7.1



- 4.5.8 move the cursor to the center of the selection (shift-s 4)
- 4.5.9 leave edit mode and select the armature.
- 4.5.10 enter edit mode
- 4.5.11 select the anchor of the bone

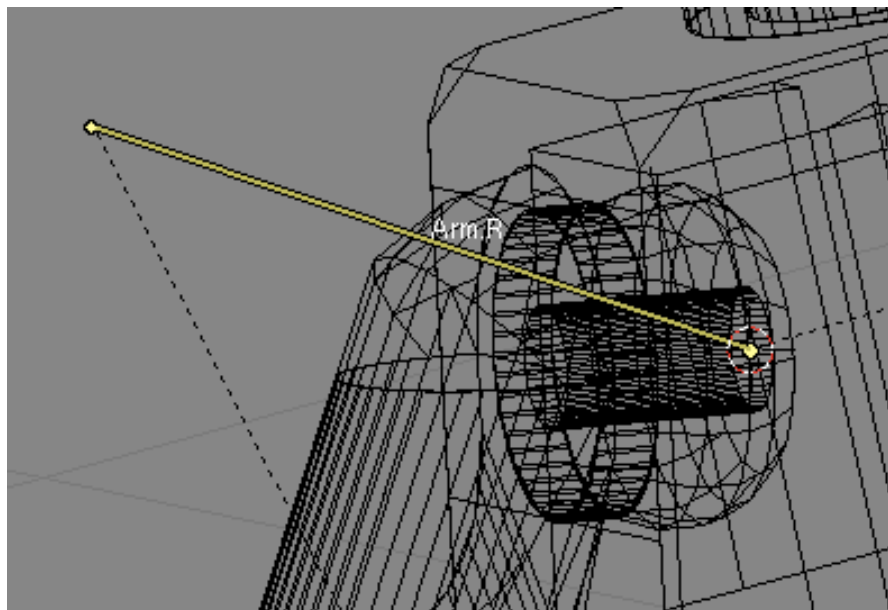
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- 4.5.11.1



- 4.5.12 and move it to the cursor (shift-s 2)

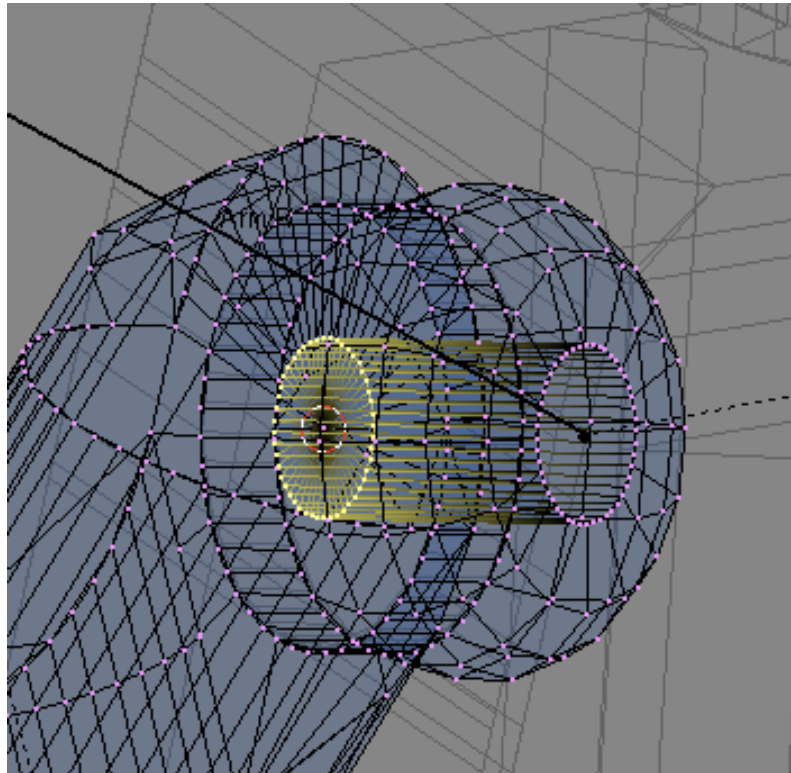
- 4.5.12.1



- 4.5.13 leave edit-mode and select the the minifig
- 4.5.14 enter edit mode and select the inner ring of the arm hinge and center the cursor to the selection

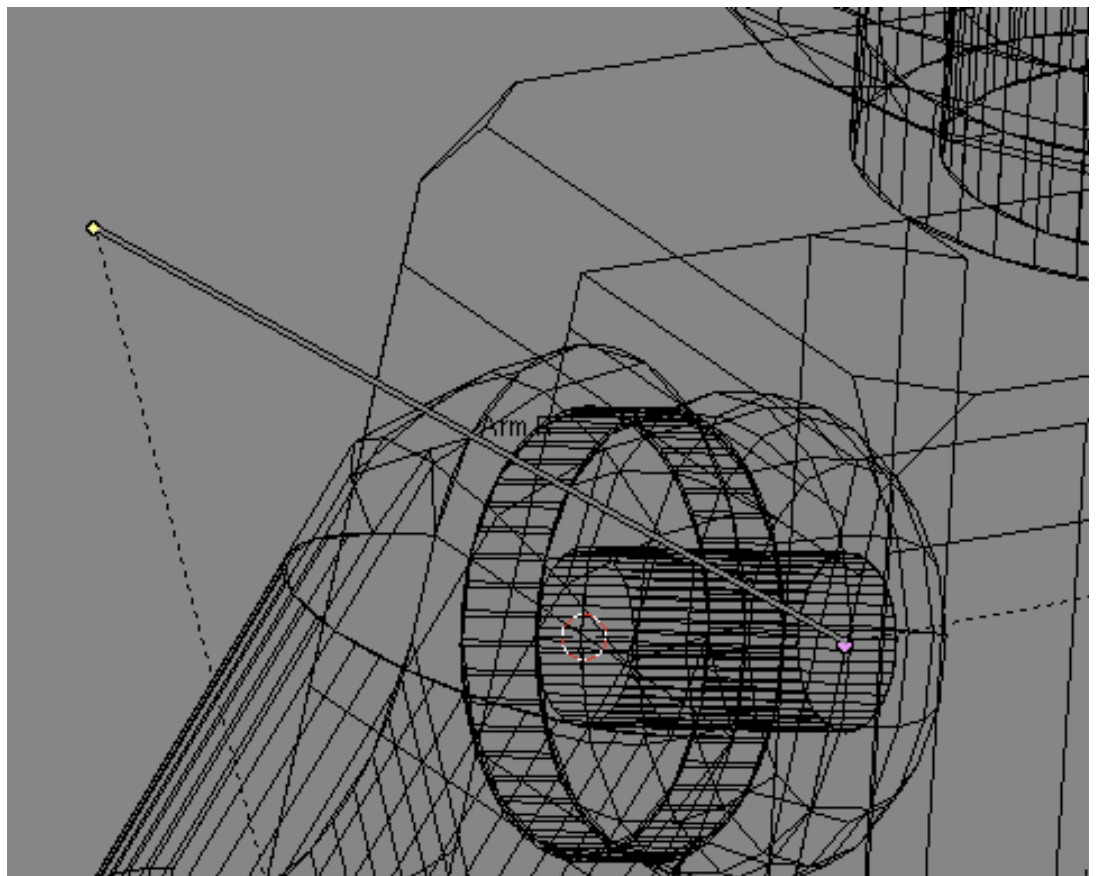
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- 4.5.14.1



- 4.5.15 leave edit mode and select the armature
- 4.5.16 enter edit mode and select the tip of the bone

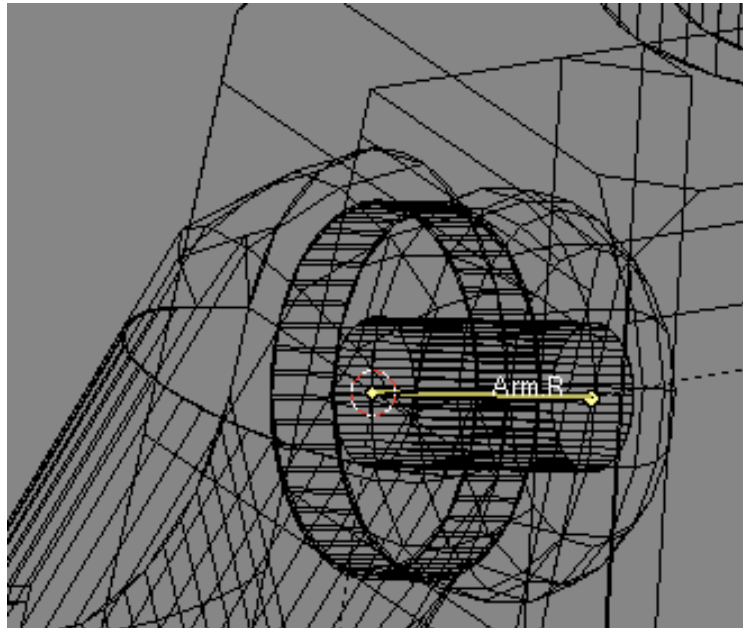
- 4.5.16.1



- 4.5.17 move the selected to to the cursor (shift-s 2)

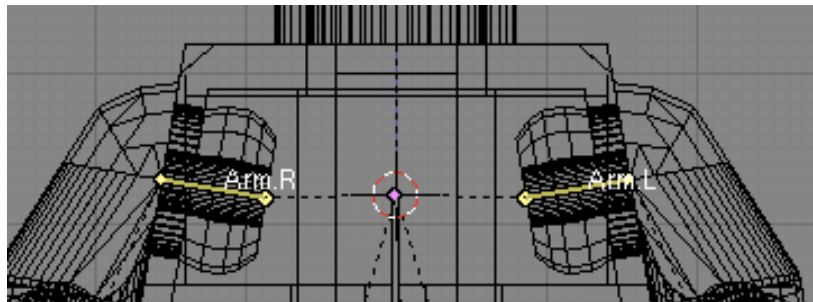
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- 4.5.17.1



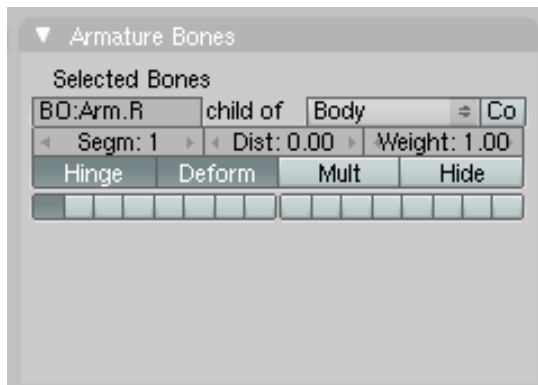
- 4.5.18 repeat for the left arm

- 4.5.18.1



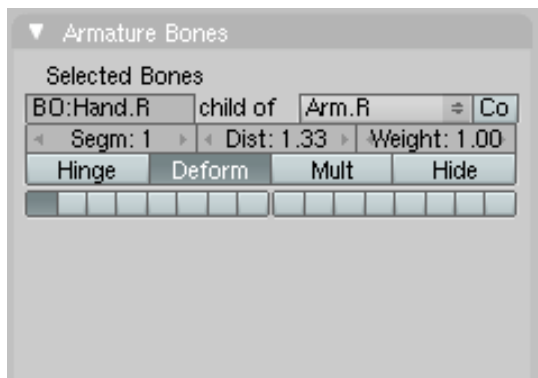
- 4.6 make children of the 'Body' and select hinge

- 4.6.1



- 4.7 Add two bones. One for each hand and name it

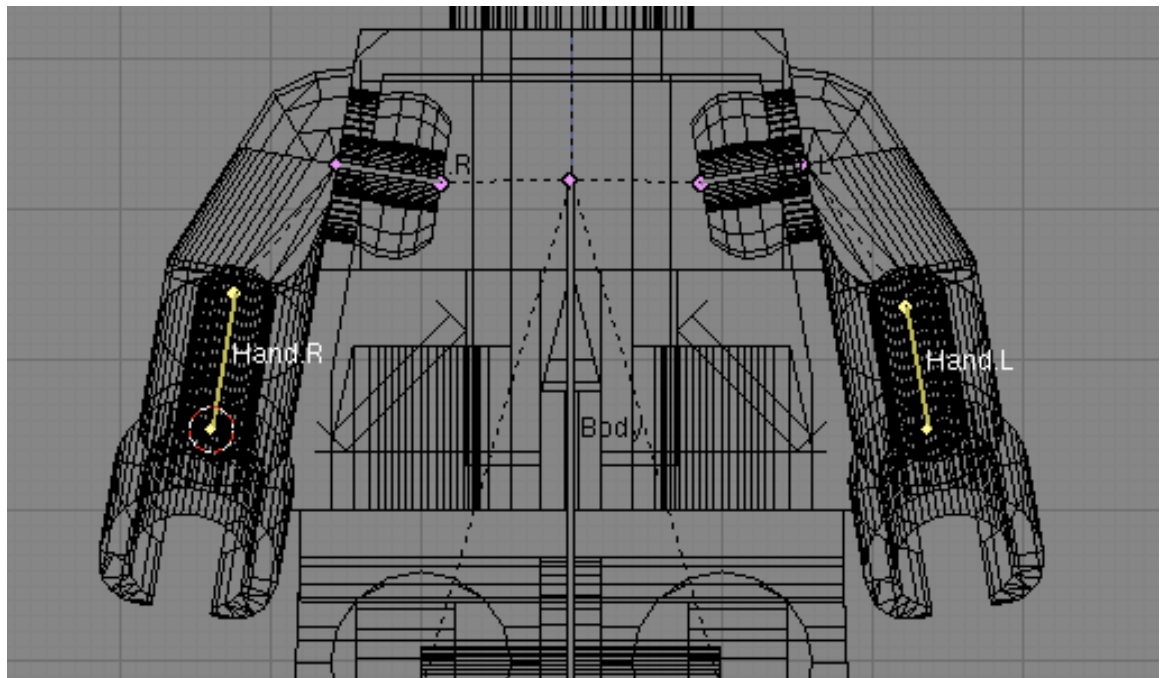
- 4.7.1



- 4.8 align the bones along the axis of freedom as you have done before

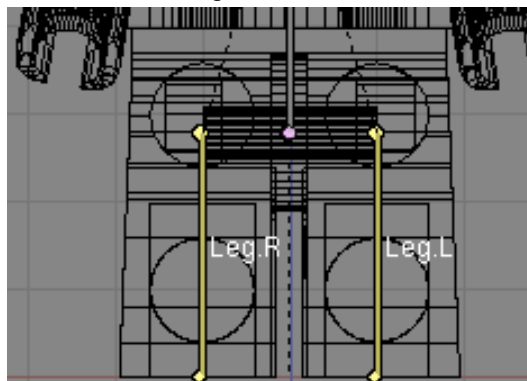
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- 4.8.1

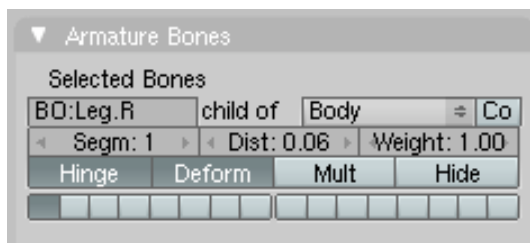


- 4.9 Add bones for the legs and made the children of the body and select hinge

- 4.9.1

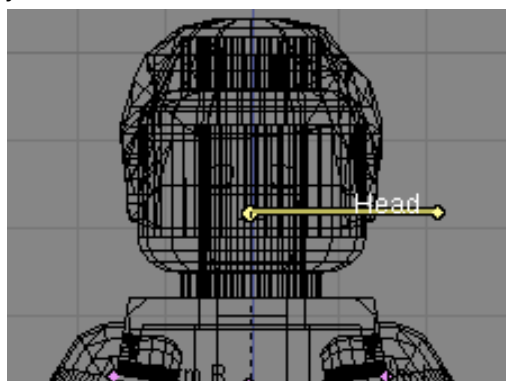


- 4.9.2

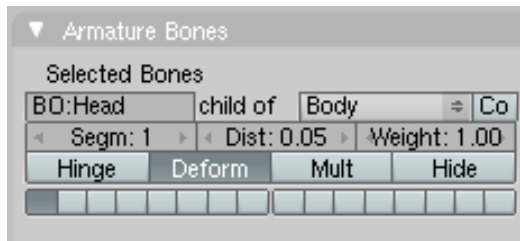


- 4.10 finally add a bone for the Head and make it the child of BODY

- 4.10.1



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- 4.10.2

- 5 make the armature the parent of the Minifig
 - 5.1 in object mode select the Minifig and afterwards the Armature and (Ctrl-p 1 1)
We want to build an armature relationship and we already have appropriate vertex groups
- 6 select the armature and and enter pose mode
 - 6.1 have fun



- 6.1.1

select bone in pose mode and r y y

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- □ 6.1.2

