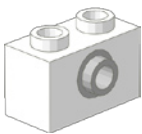


Miniland Building: MINILAND Character Build

Extended GuideLines *Part IV - The arms*

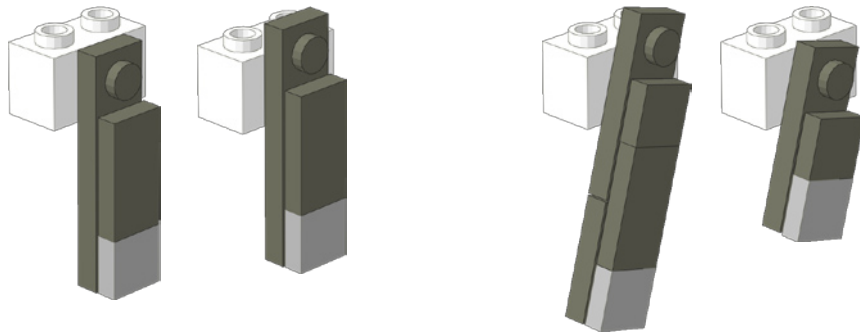
By Didier Enjary

Before discussing the arms themselves, we need to talk about the shoulders that are connecting them with the torso. Basically, we can consider three types of connections, the same that are used in the designs of headgear (see chapter III on head).



The first connection is very common in the MINILAND world. A half Technic pin is placed in a Technic brick hole (usually 1x1 or 1x2 brick) making possible to attach on the side any kind of plates combination that form the arms. This connection has the advantage of allowing a rotation of any angle, but it is not possible to maintain large angles with the vertical axis due to lack of friction. The models are glued MINILAND which solves the problem. But you certainly do not want your LEGO® pieces to be glued. Rather than gluing, just insert a small piece of paper between the brick and the half pin before introducing it. The additional friction generated is sufficient for the arm to take any angle.

To represent teenagers arms, 4-studs long plates fit well. It takes a smooth plate to give some thickness and another to represent the hand. Depending on the model, you may need to move the arms slightly upward. It is possible to make a slight shift by setting the plate on the pin between two studs rather than on the stud directly. It is usual to create 5-studs long arms for adults and 3-studs long (short) for kids.



The arms, straight, slightly pointing forward or backward, make the characters as being in motion. This is a common standing but not the only one. The arms also can be represented bent at the elbow, fixed, at 90°. To that extent use a combination of tiles stacked on 1x2 and/or 1x3 plates or even 2x2 corner plate for kids.

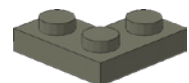
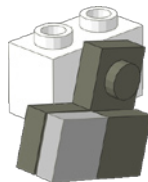
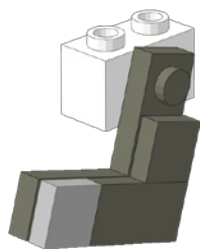
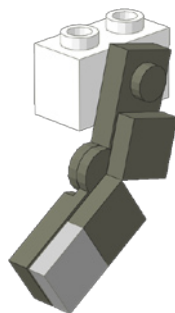
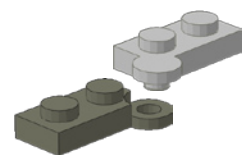


Plate 2x2 corner

The flexed arm can be hinged, with an angle ranging from 0 to 180 degrees. This is done using hinge plates. Be careful that the hinge is actually composed of two parts and that you can combine parts of different colors to create two tones hinges.

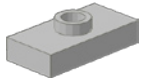


Hinge

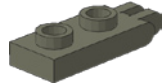
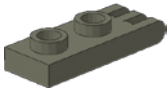
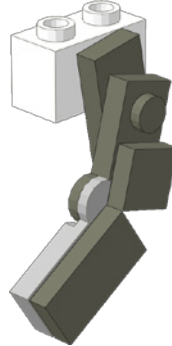


Hinge plates

We can insert a jumper plate between the shoulder and the arm. This has many advantages: It makes the arm slightly longer, it creates a space between the arm and the torso and it gives a better impression of smoothness to the curvature.

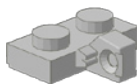
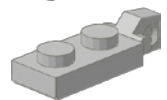
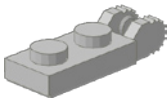


Jumper plate

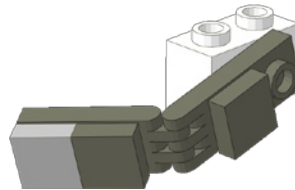


Hinge plates with fingers

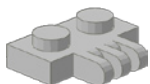
The arm can be flexed in another way with help of hinge plates with fingers. Then, more attitude can be achieved (arms folded across the chest for instance) but the arm being longer made this build usefull mainly for grown-up characters. These hinge plates with fingers are now discontinued and are replaced by click hinges.



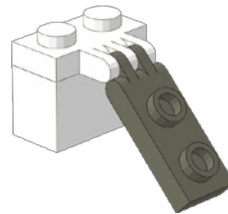
Click hinges



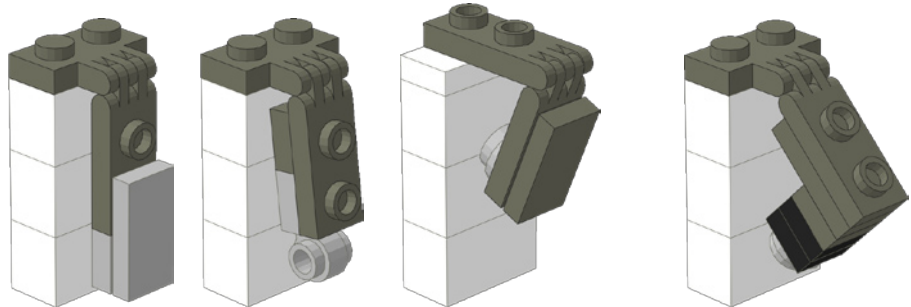
Another kind of shoulder connection make use of hinge plates with fingers, noticeably the hinge plate with fingers on side.



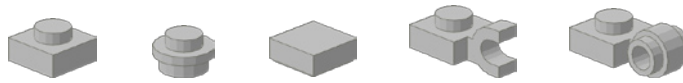
Hinge plate with fingers on side



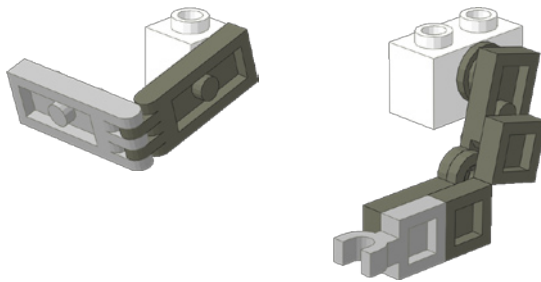
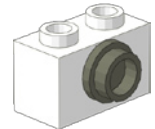
This kind of connection is used to make characters with hand on hip.



The parts which are the most commonly used to feature hands are the various 1x1 plate (round, with clip, modified...) and 1x1 tile.



The last shoulder connection consist in stacking the stud, backwards, directly into the hole of a Technic brick, possibly through a 1x1 round plate. This build is very sturdy but it has the disadvantage of presenting the underside of the plates. It is not unattractive in itself, but this represents a breakdown of traditional pattern (smooth or stud).



And, as usual, we conclude this chapter with the building instruction for a MINILAND character, here a crouched girl with arms folded across the chest, as seen at LEGOLAND® Billund.

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