

Cloth Doll Joints & Hinges

1. Hand stitched limbs or head.

The limbs and torso (or head and torso) are sewn & stuffed as separate units. The limbs are then slip stitched onto the sides of the body at shoulders and hips, (or head onto neck) providing very restricted movement and poseability.

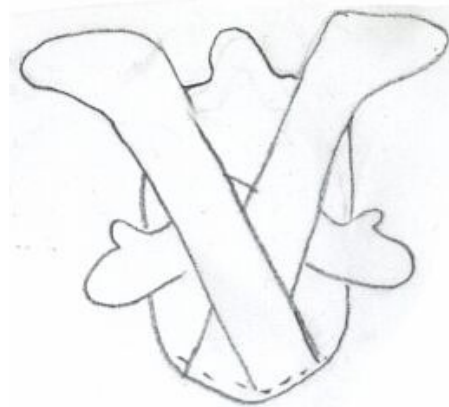
2. Flat hand stitched swing hinges (Flap/Tab) - Arm/Neck hinge.

The top of the limb or neck is tapered rather than rounded, to create a tab or flap (1"-2" long) Once the limb (or neck) is stuffed and sewn closed the flap/ tab, can then be sewn to the shoulders (or head) of the doll body, allowing the arm to hang down (or the head to nod up and down). This type is good for topsy turvy style dolls.



3. Inner machine sewn seams/ hinges:

Here the limbs are sewn, turned right sides out and inserted into openings in the torso at shoulder and hip. The body is then turned right sides out through an opening in the doll's back and limbs and torso are then stuffed through small openings before they are slip-stitched closed.



4. Outer machine sewn seams/hinges:- Top stitched.

i) This technique is used on dolls with a complete outline (all-in-one) body.

The outline of the body is sewn and turned right sides out. The limbs are then stuffed, leaving a slight gap for top stitching across at shoulders and tops of legs.

ii) This technique can also be used on knees and elbows.

The limb is sewn and turned right sides out. the lower half of the limb is then stuffed up to the elbow/knee and then the limb is top stitched once or twice with a small gap between the stitching lines, before the top half of the limb is stuffed and sewn closed.



5. Gusset hinge:

i) Here upper and lower limbs can be created. Upper limbs are sewn as normal, turned right sides out, stuffed and stitched closed. Lower limbs are sewn around leaving the top open and an opening in the side for turning and stuffing. A hinge flap is then sewn into the top of the lower limb pieces before turning right sides out. Once the lower limbs are stuffed and the openings slip-stitched closed, the upper and lower limbs are then assembled, so that the upper limb fits snugly into the gusset of the lower limb. Using strong thread, the two are sewn through from side to side, through the layers, then back through the layers and knotted. It is then possible to attach a covered button to the outer side of each limb to cover the exposed knots, if desired.

ii) Gussets can also be used at knees and elbows to allow some movement.



6. Parcel hinges:

Shoulder seams which are to be parcel hinged are finger pressed open and then the corners are sewn across at right angles to the side seam.

Parcel hinging the bottom of the doll torso: Once turned right side out, both sides of the bottom edge of the doll torso are folded towards the centre. Front and back edges are overlapped and slip-stitched together, as if closing the ends of a parcel. Legs are stitched to the front edge of the body only, leaving the back edges unattached.

7. Lap hinge- attaching legs to body

Here the back section of the body will be longer than the front section, creating a flap. Sew around torso leaving bottom edge open. Turn right sides out. Sew turn and stuff legs. Lay legs in place on front edge of body only (right sides together). Sew legs in place. Stuff body firmly and ladder stitch bottom flap to top back of legs.



8. Pivot joints give a free moving joint.

i) Here a strong thread is used (carpet/ upholstery/ Buttonhole) to sew through the limbs and body from side to side. The thread is passed through one limb, into the torso and through to the other side, through the other limb, doubled back, knotted firmly and clipped.

ii) To attach the limb even more firmly, sew through the limbs and torso as described above, but *repeat several times*, leaving one quarter of an inch of thread between limb and torso. Use the remaining thread to tie around the exposed joining threads several times until they are covered. Knot the thread tightly and clip.

9. Button joints:

* not suitable for modern children's toy making*

i) The limbs are rounded at the top and a vertical button hole is sewn on the inner side of each limb. (*To be slit open later*). Limbs are stuffed firmly at the bottom and more loosely at the top. Openings are slip stitched closed and then the button hole is slit open. Using strong thread, sew the button to the torso firmly where the limb will be attached. The limb can then be buttoned into place.

ii) Also buttons can be used in the *Pivot joint* method, where the thread is drawn through and tied off tightly through a button or washer.

Covered buttons can also be used.

It is important not to choose a button that is too large or too small for the limb.

iv) Press-studs are another method of joining the limbs by sewing them onto the doll's limbs and torso, so that they can be 'snapped' together.

10. Socket/Disc joints: (plastic or wire) for limbs and head which enable them to rotate around their axis.

These allow possibility and movement. The components for this type of joint are supplied in ready made sets consisting of two plastic discs held together by wire cotter pins. Alternatively, craft stores also supply entirely plastic joints, where one half of the disc has a protruding knob which inserts into a hole in the other half.

The discs are separated and one half is placed in the doll limb or head, whilst the other half is placed in the corresponding part of the doll torso. Round button holes (the size depending on the size of the disc knob) are sewn on one side of each limb and on either side of the torso at hip and shoulder. It is important to ensure you have a right and left arm/leg when positioning the button holes.

The discs are inserted at the button hole locations before the doll is completely stuffed. Once stuffing is completed, the stuffing openings are slip-stitched closed and the discs are then pushed/clipped together.

