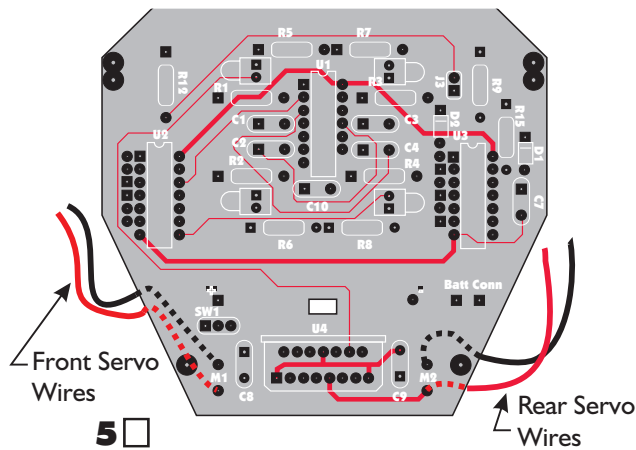


# ScoutWalker 1.1 Walking Robot Instructions:

## Final Assembly - LEGS! (cont'd)

You're soooo close to finishing your ScoutWalker it probably hurts. Well, perhaps aches...Ah - just finish this page, and switch it on!

Now that you've got the "brains" on the body and the batteries hooked up, all that is left is hooking up the servo motors and positioning the legs. It sounds simple enough, but finding an optimal leg layout will probably take you as much time as building the whole walker. What we'll give you here is a good place to start, and then you can start experimenting with your own shapes.



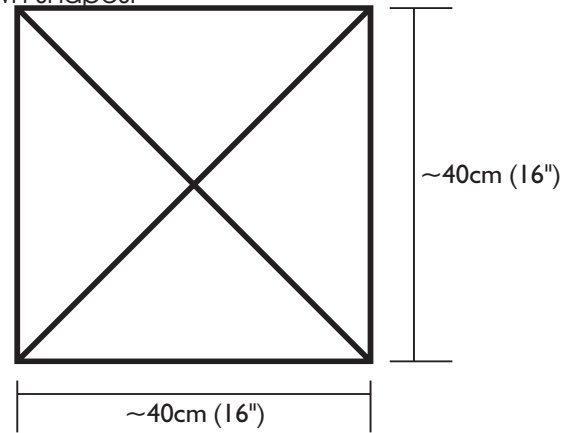
**5** □

Solder front servo wires to the pads labeled "M1", and the rear servo wires to the pads labeled "M2". Don't worry about which wire goes where - if it starts walking in reverse when you power it up, simply swap the wire connections on the "M1" **or** the "M2" pad.



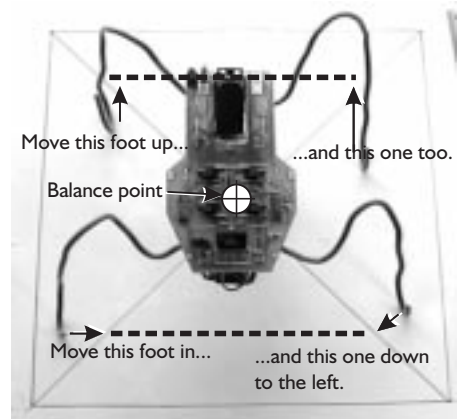
**7** □

Find the balance point of your walker by lifting off the surface by two fingertips. Find the point where it just balances horizontally - keep that point in



**6** □

Next, find a big piece of paper, like a newspaper or from a roll. Draw a square that measures around 40cm a side, and then draw lines that connect the diagonal corners. We'll use this to set up the basic



**8** □

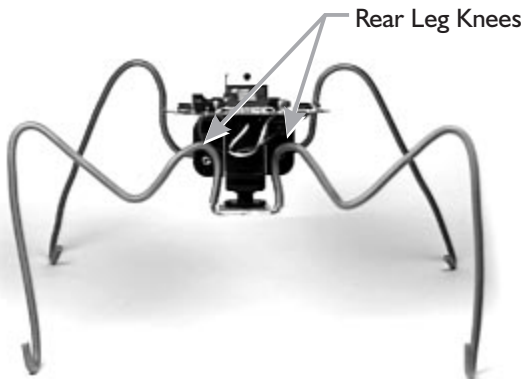
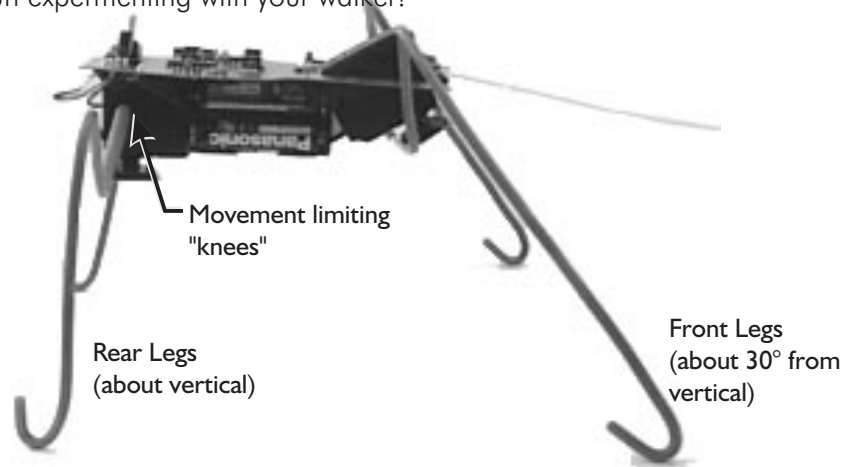
Place your ScoutWalker so that its balance point sits directly over the "X". Bend your legs so that the feet touch the lines of the "X", and are directly across from each other. This assures that your ScoutWalker will have sufficient balance to give you at least a reasonable walking gait when you power it up.

# ScoutWalker 1.1 Walking Robot Instructions:

## Final Assembly - LEGS! (cont'd)

If you haven't already turned it on, do so now! Chances are your ScoutWalker will thrash about a bit, but follow these basic instructions and it should start striding away!

As previously stated, there is no single optimal leg design. What is pictured here is what we found to work on the one we built for this manual. If you want to borrow the geometry, here it is - but make sure you follow the balancing procedure as described in step 8. There are two design points that should always be followed - 1) bend the "feet" under, so there aren't any pointy toes to catch on rough surfaces. 2) The rear legs should have limit stops to keep them from falling too far out of sync. In this layout, the rear legs are bent so they limit out on the sides of the rear servo. Another method is to bend the rear-leg "knees" high enough so they limit out on the edges of the PCB. Have fun experimenting with your walker!



Rear View - note how small rear leg "knees" are positioned so the strike the servo sides.

