Staircase Fitting

DIY staircase fitting ? Some thought we were mad to try it....see how we got on !

Previous page: The Outer Shell

(Hint: Click on photos to open fullsize!)

The house is split over 3 floors, with one large stairwell top to bottom.

Each set of stairs comprises two short flights with half-landings between. The following drawing gives some idea (click to open fullsize image) :

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I was fortunate enough to have some assistance for the weekend - in the form of my Dad!

The staircase manufacturer said that we would have to start fitting from the very top downwards. I didn't understand why, but thought as a joiner, he probably knew a bit more than me, so decided to follow his advice.

Working 3 storeys up required a safe working platform, so the first main task was to erect a scaffolding tower in the stairwell, with timber & plywood platforms, and ladders to provide access:

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The staircase was supplied as a kit of parts. We had to work out which bits went between top and middle floor, cleared a space and started a dry run of assembling them. The rubber mallet you can see in the photo below was essential to hammer the joints together !

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The half landing requires some joist work to be built across the stairwell for support. This needs building first, and must be moveable to allow for precise positioning. We slotted joists through the stairwell walls, and oversized the holes to allow for 1-2" adjustment in any direction.
The initial position of the landing was calculated from measurements carefully taken from the dry run assembly of the flights & newels, then measured from the middle and top floor joist edges.

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The joists were temporarily supported in the calculated position on offcuts of plywood/chipboard screwed to the walls with frame screws.

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Here you can see the oversized holes that will allow fine tuning of the landing position later. The were cut by drilling round the perimeter with an SDS drill, then chiselling out with an SDS chisel bit and the drill set to roto-stop. I'm glad I bought my SDS drill now as it made very light work of this task.

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This photo gives an idea of the working height:

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My assistant (!) trimming the edge of the floorboards back to allow fitting of the top nosing:

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Removing some screws from my over-zealous floorboard fitting a few weeks ago:

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The landing MDF board loosely laid in place after being cut to size:

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My assistant again, carefully housing out the middle floor double-newel post to fit onto the middle floor joists. The top (single) newel also has to be housed out to fit on the top floor joists. The half landing newel is not housed out. Because the newels are already machined out for the nosings, risers and tread edges, it's possible to work out how deep to cut. Two accurate cuts were made top & bottom with a tenon saw, using guide pieces clamped to the newel to ensure accurate positioning. Then the waste wood in between was slotted out with a circular saw (set accurately to the right cutting depth, and trialled on offcuts!) before the remainder is chopped out with a chisel. Finally the face was smoothed off with a plane to ensure it sits flat against the joist face.

In addition to the newel posts, the nosing and top & bottom risers needed cutting to length.

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The top two flights, newels and handrails fitted in place.

The fact that I only took one photo here suggests getting to this stage was quick - in fact it was just the opposite - probably the hardest and most time consuming part of the process. Just lifting the flights up to this height was hard work; trying to get the flights, newels and handrails to fitted together in the restricted space in front of the landing - whilst simultaneously fitting the top & bottom risers and top nosing - took a long time, with a lot of chin-scratching to figure out an assembly sequence that would work.

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It was here that the ability to adjust the landing position was crucial. With the aid of a jemmy, the landing joists were moved so that A) the landing was level, and B) that all the joints between strings & newels, and handrails & newels, closed up tightly. It took some time and lots of small adjustments to find the required psotion. Once in final position, the landing joists were firmly packed in the wall holes, which will be mortared up.

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So that's the storey so far (note the deliberate spelling mistake...).

Watch this space for part 2 - ground to first floor !

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