

## **Modular Systems Tips & Techniques**

### **General building tips**

1. Work as a team. One person preps locks and places material; the other builds frame of H200s (MIS & GEM) /beams (SST) and P80s/posts. Then return to insert panels and follow with ladder to install top H45s/rails.
2. Check posts for blown-out channels and ensure that the good channels are where you'll need them before locking in H200s/beams.
3. Keep locks consistent. They should face the same way as much as possible.
4. Visually check to ensure lock is properly seated in channel (MIS & GEM).
5. Tighten locks just until snug. Over-tightening stresses the aluminum.
6. If it isn't seating properly in channel, try rocking or jiggling the lock (before turning ratchet) to help push lock further into channel (MIS & GEM).
7. Pre-adjust feet on posts. (MIS)

### **Walls and rooms**

8. Build MIS wall framing on the ground and then raise as one unit. Before raising, make sure that all feet are screwed in and replace any broken inserts.
9. If building GEM walls with bottom H200s and top H70s, bottom bars should be flush with bottom of posts. If building with H45s on top, use a 3/4-inch spacer underneath bottom bar, e.g. a shelf bracket or short H45 turned on its side.
10. Build SST walls with "hockey sticks." First attach a beam to bottom end of post – to form an L-shaped hockey stick – before adding post to wall framing. This avoids having to lift entire wall frame to slide end post onto beam or having to reach up high to slide beam down a channel from the top.
11. If you do need to add a beam to an existing wall without lifting the wall, use a 1/2M rail as a "handle" to extend your reach by twisting it into the side of the beam. Then lift the beam above the top of the post and slide it down into the channel.
12. Walls need support approximately every three (3) meters. This support can be an interior wall, an outrigger, or an overhead diagonal H45/rail.
13. When frame is complete, insert panels beginning at door hinge, or in a corner, and work in one direction along each wall. Avoid meeting in the middle. The same goes for installing top H45s/rails.
14. To align walls or feed electrical cords underneath, use a pry bar held at an angle (not perpendicular to wall) under bottom metal, then where necessary slightly loosen locks, adjust alignment and retighten. If held perpendicular, pry bar may get stuck in channel, whereas held at an angle it won't.
15. Use diagonals to stiffen structures, especially at corners of rooms with long walls.
16. Doors should be strengthened by using an overhead 1M diag H45/rail connected to the post on the hinge side (or a longer diagonal, depending on the proximity of the door to the nearest corner).
17. Check that doors close and lock properly, and that keyhole is facing out of the room.

## **Installing panels**

18. Check panels for stains, rips, cracks, broken corners, etc. before installing. If only one side looks good, place the panel so that bad side will be hidden from public view, if possible, e.g. facing a building wall or a masked off area. If this is not possible, replace bad panel with a good one.
19. To install radius (curved) panels between posts, first attach a temporary radius bar backwards and as high on posts as you can reach. This helps keep posts from spreading apart and makes it easier to install panel and top bar.
20. If you have to cut a sintra panel, find a smooth, level surface to work on, like the lid of a flat crate. Measure carefully along one edge and make an 1/8-inch cut to mark the spot, then do the same on the opposite edge. (Remember the adage: measure twice, cut once!) For a straight edge, use an H45, rail, or another straight piece of sintra that's longer than the dimension you'll be cutting. Use short strips of one-inch double face tape to hold the straight edge in place with your 1/8-inch cuts flush along one edge. Install a fresh, sharp blade in your knife. Run the knife along the straight edge a few times, increasing pressure each time to properly score the sintra. Then move scored line to edge of your work surface and bend sintra downward to break it along scored line.

## **Cleaning and touch-up**

21. Work exposed fabric edges into channel with the back (dull edge) of a matt knife or something flat like a squeegee or credit card.
22. Sintra cleans easily with simple green, Windex or 409. For tougher stains try Ajax or citrus cleaner.
23. Fabric panels clean with a brush or with tape.
24. Aluminum cleans with a gum eraser, or simple green and a scrubbie.
25. Check for caps on post ends that are visible or within easy reach, e.g. cabinet tops and overhanging headers. Post ends have sharp edges that need caps for safety as well as aesthetics.

## **Lights**

26. Test lights before installing.
27. If arm light doesn't work, first check that bulb is screwed in and cord is properly plugged in (some light cords also plug into fixture; check both connections). Next check power source. If power is good and it still doesn't light up, try a different bulb from a working light. For the final check, unplug power, remove bulb and try bending copper contact at base upward slightly, then screw in bulb and plug cord back in. No luck? Replace fixture.
28. If track light isn't working, check whether copper strips have slipped out the end of track. Unplug power and tap end of light track to re-establish connections. Track lights only twist in one direction: don't try to force them the wrong way.
29. When adjusting lights, beware of hot fixtures! Rotate arm light forward until you see a shadow at the top of the wall. Align the shadow so that it forms a straight line parallel to the top H45/rail, then slowly turn fixture back until the shadow just disappears.
30. Lights have different color bulbs, e.g. yellower or whiter. Take time to match.

## Shelving

31. Use a short piece of double-face tape at the end of each shelf bracket to keep shelves from sliding.
32. Reinforce walls that will have lots of shelving by adding outriggers – to front, between all shelves if possible, and to back side of wall. If needed, add sandbags or heavy bases to bottom H200s/beams on rear outriggers. If not enough room in rear for perpendicular outriggers, install diagonally.
33. MIS shelf brackets come in two main types: locking and hooked. The hooked type attach into slotted “shelf standards,” which slide down post channels at a 45-degree angle on either side of shelving. Their height can be adjusted with set screws that take a 1/8-inch allen wrench.
34. To install an MIS shelf standard in a channel that’s too tight, loosen locks in top bars on either side of post (but not so much that lock slips out of channel!). If still too tight, slide a closed lock into top of channel so that lock is flush with top of channel, then open lock as far as possible to widen channel.

## Headers

35. First install top bar, then the bottom bar a few inches too low. Insert header with bottom edge seated in bottom bar (check that it’s completely in channel), then loosen locks on bottom bar, raise until header is completely seated in top channel and lock in place.
36. If installing header bars before you have the header available, be sure to install bottom bar above a height of 6 feet 6 inches, to avoid someone hitting their head.
37. Use notched posts in a wall that will have a header or other panel installed above posts in the wall. Check that notches are aligned with wall.
38. To notch posts, use side cutters or better yet, small vise grips to remove a ½-inch tab from the top of opposite channels. Tighten vise grips around a ½-inch depth at top of channel, then bend back and forth until tab breaks free. Repeat other side.
39. Consider prebuilding header units on the ground before installing on ladders. Secure headers that may slip or pop out while installing, e.g. wrap 3-inch shrink around header assembly or tape back of header to metal.
40. For side-by-side header panels with graphics or text that won’t line up, there are several possible ways to fix alignment. If back side of header will not be visible, align panels properly and tape back side of seam to hold in place. To raise one panel, place a cigarette butt or wood chip in channel under corner of panel. Try adjusting feet on MIS tower(s) on one or both sides of header, or place shims under one or more posts (GEM & SST), to cause tower to lean slightly and thus tip header appropriately.

## **Dismantling and safety**

41. When dismantling walls, think STABILITY. Leave corners and T-shaped sections in place while removing straight sections in between.
42. Remove top bars, then panels; leave posts and bottom bars til last. Try to keep floor area clear of materials for safety. When possible, have empty crates close to your work area, and put materials directly into crates as you dismantle. If using ozzies: bars go on one, panels on another, posts underneath both. Neatness counts for a safer work area.
43. If you need to move a heavy, prebuilt unit, there are several options. If unit is not very long, you can attach short H200s/beams just below waist-height and use them as handles to lift unit onto wheels. If unit is too long and heavy, use Zacariuses: place four-wheel dollies next to posts and lock a short H200/beam into each post so that beam is flush and resting on the wooden part of dolly. Get help and lift unit about an inch so that beams now rest on carpeted part of dollies. You may need to lift in sections, until entire unit is one inch off the floor and rolling.