

## Strand Electric Self-Release or Grand Master Stage Switchboards

First as there seems to be some confusion:-

A Self-Release Switchboard had the same dimmer handles as a Grand Master i.e horizontal shafts with a "fixed" wheel about 7 inch dia. with a deep "v" groove on the perimeter and a "loose" casting with an operating handle which on a quarter turn mated with the wheel groove and therefore locked onto the shaft. It was this latter casting that also secured the mechanical link to operate the dimmer itself. The self-release mechanism was another "fixed" casting, with fine adjustment bosses, which automatically lifted the wedge in the handle from the groove in the wheel at the top and bottom limit of dimmer travel, however it did not change the quarter turn of the handle. Thus a dimmer or dimmers at any intermediate position between top and bottom did not impede the progress of other dimmers also "locked" to the driving shaft when this shaft was rotated in either direction. What is more if a driving shaft was reversed in direction any dimmers which had been self-released at limit of travel re-engaged. In this respect the Strand Self-Release was superior to competitors, like Micklewright, which also self-released but also unlocked the operating handle. All driving shafts had a handwheel at one end, and Self-Release Switchboards had chain-linking with screw-down cogs so shafts could be linked for collective operation.

Grand Master (strickly Grand Cross Master Switchboards) had exactly the same self-release dimmer handles and differed only in respect of the method and utility of linking shaftst for collective operation. On this each shaft had geering with splines engaged by a handle which allow it to travel in the same direction, or opposite direction, or be disengaged entirely, from the direction of travel of the geared grand master wheel of larger diameter and arranged at right angles to the individual dimmer handles. The utility of this was that the contemporary lighting equipment controlled was principally 3 or 4-colour compartment battens and shafts controlled colours (often any spotlights were often consigned to the bottom shaft, or for 4-colour installations of No.1 Variety theatres the Floats, Battens and dips to one side of the Grand Master wheel and spotlights, etc to the opposite side).

## Removing a Self-Release or Grand Master Switchboard

There are three hazards - the probability of asbestos particles, in particular from internal wiring which is/was asbestos sheathed and from wirewound dimmers essentially built on asbestos-loaded substrates made worse by any dampness (absent when in regular use) The second hazard is less obvious - due to the use of many castings and shafting the vast majority of weight is very much forward. It is essential to do the difficult parts first - imperial sized spanners will be required. (if later intending to reassemble label everything even similar-looking shafts). The third hazard is the considerable weights to be handled - a shaft with cast wheels and dimmer handles is indivisible. The usual location is very cramped.

First take apart Grand Master wheel and front to back shaft, followed by the vertical shafts and gearing.

Next release all the mechanical links to the dimmers at the handle end on the top shafts and the clip-on dimmer scales

Then release one then the other top shaft by separating the bearings - these will be very heavy!

Proceed in the same sequence for the next to top shafts, then the next downwards. When this all has been done the principal forward weight will have been removed. Next remove the "fixed" self release castings (but if going to reassemble first identify each one because the fine adjustment will predictably vary). Next it is prudent to disconnect and remove all the dimmers by releasing the bolts holding the back and front feet. By then removing the channel irons then revealed it will be far easier to reach the electrical connections at the rear of the switch and fuse panels. If to be reassembled very careful identification of these connections is necessary - remember on most of these switchboards the switching of "colour" masters is by remote contactors - loading and phasing is far from obvious! Remove all fuse bridges before removing the switch panels as these are relatively loose, and irreplaceable today. The remainder is obvious.

If reassembling, even for cosmetic purposes, the dimmers must be replaced because the brush gear bridging the contact studs on two sides provides essential friction.

  
Brian Legge

29/11/07