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Stages

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Classic Gear: BigTow Winch

Rob Halliday takes a nostalgic but instructive look back at the tools that have shaped the industry...

Theatre has always tended to build what it needs, when it needs it. Sets, in particular, are bespoke, one-off creations, made specifically for a show, destined for the skip when the show's over. As technology came to scenery - to help make it move, rotate or perform other theatrical magic, that technology was also custom-engineered each time, the same solutions often re-invented over and over again.

To Mark Ager and John Hastie, the founders of a small upstart company called Stage Technologies, this seemed wasteful. With Acrobat (a classic for another day) they'd already shown the value of creating an automation desk that, just like a lighting desk, was show-agnostic. It seemed that the same should be true at the mechanical end. Specifically, why not create a standard winch that could be used in a wide variety of applications?

They found an ally in mechanical engineer Mike Barnett, the realiser of the scenic spectaculars of John Napier and a first candidate for 'backstage legend' should we ever start that column. In aiming for a winch that could be used anywhere in a theatre, Barnett was adamant that one dimension must be as small as possible so it could be squeezed into tight spaces, rather than the roughly cubic volume most existing winches occupied.

This led to a long, narrow design, and as part of that a drum that tracked as it rotated, ensuring the cable always left the drum at the same point - so a 'zero fleet' winch. At 200mm wide the winch roughly matched the spacing of many counterweight systems, letting it fit in when used as a counterweight assist to move flown scenery. But 200mm was also the height of many temporary show decks being installed for productions; the winch, mounted on its side in the floor could be used to drive tracked scenery. And despite its compact dimensions, it could handle 125kg at up to 1.5m/s.

Of course, an idea is not enough. You need a prototype. And, if you're a young company, as Stage Technologies was back in 1994, you also need a client willing to take a chance on you. That client was Cameron Mackintosh, who had a new production of *Oliver!* heading for the Palladium and requiring automation for both flown and tracked scenery. A demonstration was set up that saw the prototype moving a trolley filled with solid 3" steel bars across a factory floor. Despite a minor mishap involving one section of the steel falling onto John Hastie's big toe, and so a quick trip to A&E, the production manager was convinced, an order was signed, and ten winches were built and supplied to the show.

Perhaps the foot incident inspired the product's name: more likely it was function instantly



summarised, but either way it was perfect: BigTow. The design, and later updates of it to create a range encompassing 60kg to 2.5tonne payloads at speeds from 300mm/s to 12m/s, have found many applications beyond just moving scenery (the first 3D performer flying, the aerial ballet at the Millennium Dome) in environments from short-term shows to permanently installed flying systems, in theatres, cruise ships and more.

The ultimate proof of the rightness of the generic winch concept: those first 10 are still in use 21 years later, having served not just *Oliver!* but many more shows since.

BigTow:

> www.stagetechnology.com/theatre-winch

From the History Vault: *Oliver!*

> [//plasma.me/4sz8z](http://plasma.me/4sz8z)

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