

Machinery upgrades in steel wire plants in 2007

October 2007

CMS have been active over the past 12 months in major machinery upgrades at several Bridon rope works.

The common challenge with the projects was how to design, build and install replacement components without affecting current production. In several cases this required a number of engineering inspections during scheduled downtime; the required parts were then manufactured, assembled and tested off-site and this was followed by a scheduled shutdown to install the replacement components.

In each project the parts were successfully replaced and the machinery running and back into production on time.

The engineering of the replacement components was in some cases enabled by CMS holding the original manufacturing drawings or alternatively by reverse engineering from customer records.

Case 1 – Rebuilding 35 tonne closer

The objective was to bring this machine back to a high level of mechanical reliability. This was done by replacing the worn support rings and centre tubes with a new reinforced design.

The new components were assembled by CMS staff in the nominated shut down period and brought back into production on time.

Case 2 – Repair of 120 tonne closer capstan gearbox

The objective was to supply a new worm and wheel set and bearings, without any interruption to production and then to replace the worn parts within a normal shutdown period.

As the complete machine was supplied by CMS division Hanson and Edwards in the 1970s, CMS had all the relevant manufacturing drawings to make exact replacement parts ahead of the shutdown period. The advantage of having the drawings was that there was no need to strip the gearbox and interrupt production on a busy machine.

The new components were assembled and the gearbox given a thorough running trial, before reinstallation on site. All this within the required two week shutdown period and the closer was returned to production.

Case 3 – Replacement tube for 48 inch tubular closer

Originally supplied by CMS division Hanson and Edwards in the 1970s, the tubular closer required a replacement tube section. Again the original

manufacturing file and drawings were used to manufacture a direct replacement.

At the same time the under roller assemblies were replaced with new fully assembled roller units. The roller and bearing assemblies were supplied pre-assembled in a clean environment, to minimise the time to exchange the existing rollers.

The photographs show the tube and the under rollers ready for despatch.

The benefits to the customer were minimum downtime and replacement with components of the original quality and design.

Case 4 – Supply new Grooved twin wheel capstan

This new capstan was supplied to replace a worn set of 1200mm diameter grooved capstan wheels on an existing tubular strander.

Following a site survey, the capstan wheels and the frame were designed as a direct replacement of the existing unit. Manufactured from forged rings with fabricated centre plates, the grooves and the gears are hardened to 55 Rockwell C.

The benefit to the customer was to minimise downtime with a direct replacement unit. No foundation work was required and the new unit was designed to accept the existing drive motor gearbox direct mounting.

Extensive experience

CMS have extensive experience in rebuilding and refurbishing machinery, as well as the supply of new production equipment. For further information please contact:

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**Hanson &
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548 words

Photograph captions below:

Case	Photo & Filename	Caption
1	 35_tonne_closer.jpg	Refurbishment of Hanson & Edwards 35 tonne closer
2	 120_tonne_closer_capstan_gearbox.jpg	120 tonne Hanson & Edwards closer capstan gearbox repair
3	 48_inch_tubular_closer_tube.jpg	Replacement tube for 48" Hanson & Edwards tubular closer
3	 48_inch_tubular_closer_under_roller.jpg	Replacement under roller for 48" Hanson & Edwards tubular closer
4	 twin_wheel_capstan.jpg	New twin wheel capstan