
Monorail Chain-Removing Tool



Dan Treacy
Pacific Coal's Kestrel Mine



THE PROBLEM

At Kestrel Mine, the longwall retreats at a rate of approximately 200m over the period of a fortnight. After every 2m of retreat, the longwall monorail is lowered by removing a chain from a monorail bracket at each end of the monorail.

Previously, each time the chain was removed from the bracket, it involved an operator using a three-legged brattice stool to gain enough height to feed the chain manually through the keyhole of the bracket.

The potential existed for a number of injuries to be sustained whilst undertaking this procedure:

- falling from the stool (especially when on uneven ground) and sustaining an injury
- finger pinching from feeding the chain through the keyhole
- sprain/strain injuries to the back, shoulder and neck from adopting awkward postures to manually handle the chain

THE SOLUTION

The use of the monorail chain-removing tool eliminates the need to use a brattice stool whilst undertaking the task. This in turn eliminates both the risk of falling from the stool and the risk of sustaining a manual handling sprain/strain injury from awkward postures adopted whilst working from the stool. It also removes the operator's hand from the pinch point where the chain feeds through the keyhole therefore eliminating the pinch-point hazard.

PROCESS STEPS

1. After consultation with other longwall operator/maintainers regarding the problem associated with lowering the monorail chain, the chain-removing tool was designed by longwall Operator/Maintainer Dan Treacy
2. Once the concept was established, an on site engineering company was consulted to manufacture the tool.
3. The tool was left in the panel and trialled by each of the four longwall crews. The feedback was excellent and, after some minor modifications to the initial tool, it is now the standard system for removing monorail chain from the brackets in the Longwall

COSTS

The tools are available to Kestrel at a cost of \$30.00 including materials and labour.

TRANSFERABILITY

The monorail chain-removing tool is applicable in concept in every longwall mining operation as well as being transferable to any other industry that may remove chains from similar brackets that are hung at height.
