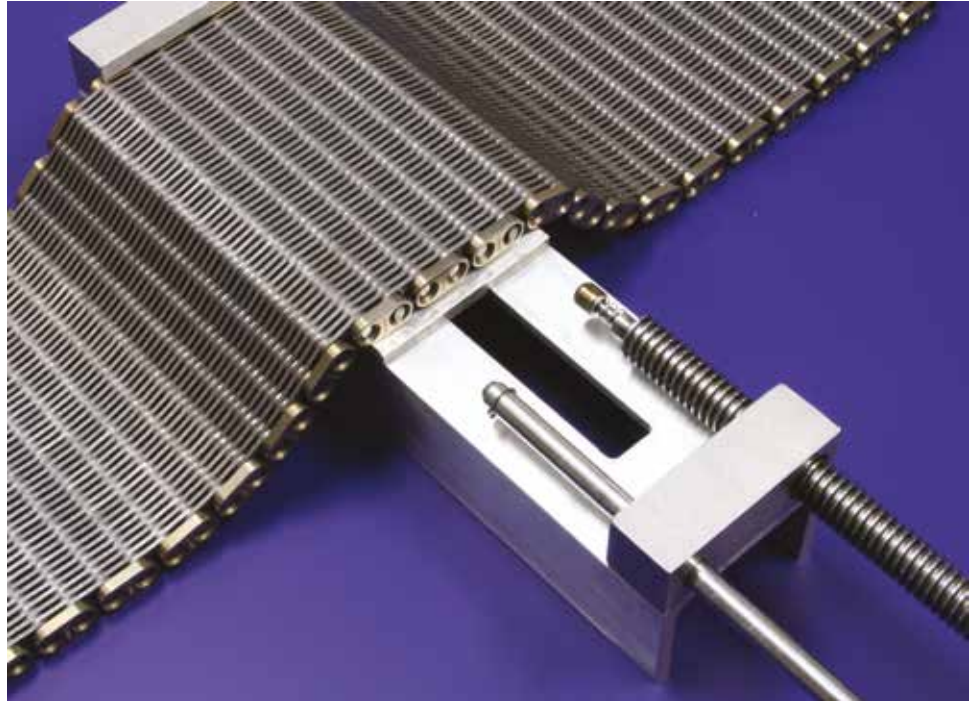


Chain connection solution

According to William Hall, the recent development of a specialist tool simplifies the disconnection and connection of wear protected conveyor chains.

Ramsey's Allguard FX and Lifeguard glass conveying chains are well protected from the chain wear encountered in many production settings. Equipped with protective side links that fully enclose the sides of the chain, typical wear of the chain side links and pin heads is virtually eliminated. Many glass producers have recognised these benefits and have installed Ramsey wear protected chains on their conveyors. However, the company's customer service and engineering personnel learned that the well protected character of these chains, which has earned three USA patents, had created some unforeseen problems.

As David Holcomb, Ramsey's Vice President of Sales, visited Ramsey customers around the world, he began to hear similar comments. "I was visiting customers and coming across a common theme – wear protected chains are wonderful but extremely difficult to connect and disconnect" he confirmed. For many customers, disconnecting chain required maintenance personnel to either hammer side links until they broke off the chain, or to grind them off the chain. Each of these approaches is time-consuming and



Quick and easy connection and disconnection of chain.

often results in damage to adjacent chain links. Damaged links require even more time-consuming repairs.

Connecting the new chain was a problem as well. When attempting to make a head on the end of connecting pins, maintenance

personnel were using a hammer to peen the end of the pin, like they would on a standard chain. However, since the end of the pin was recessed below the surface of the wear protected link, it was nearly impossible to head it properly. Hammering often damaged the side links or broke other links in the chain. Once again, engineers tried alternative methods, such as welding the end of the pin. Welding usually damaged the links or locked the chain joints, causing the chain to be stiff or to break at the connection point.

After hearing about these customer concerns, Ramsey staff started asking more questions. They soon discovered that production personnel at the company's manufacturing plant were encountering some of the same problems when connecting and disconnecting chain. As Bill Hall, President of Ramsey, observed: "We knew we had to find a solution for everyone working with wear protected chains. The chains have been well received by customers and we know they are here to stay. But the amount of time and effort needed to connect and disconnect these chains is frustrating everyone."



Ramsey's time-saving RKO tool (patent pending).



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The design team reviews the RKO prototype.

SOLUTION DEVELOPED

Intent on resolving these difficulties, Ramsey's engineering team focused first on simplifying chain disconnection. After considering various options, the team resolved to develop a tool that could easily remove a pin from a chain, without damaging other chain components. The tool also had to operate by hand, without electrical power and be robust enough to withstand regular use in a production environment. In the following months, various versions of the tool were designed, after which prototypes were produced and then tested.

After successfully testing a prototype disconnect tool, the team focused on modifying the tool to help simplify chain connection. Once again, numerous prototypes were reviewed and tested before arriving at a final solution. The tool was then field tested in numerous glass plants, where it exceeded all expectations.

The final RKO tool design, with patents pending, provides three distinct stations. The first safely breaks the existing pin head for chain disconnection, while station two assists in quickly removing the pin and station three maintains chain link and spacer alignment while a special pre-drilled connecting pin is inserted. The tool is also equipped with modular guide plates that allow the tool to be adapted to almost any width and style of Ramsey Allguard FX or Lifeguard chain.

The RKO tool has been positively received by glass plant personnel. "Whenever I present the tool to customers, it attracts a lot of attention" David Holcomb confirmed. "Everybody wants to see it and try it out. There has been a lot of excitement and our customers are very happy to have it. There's never been anything in the industry for connecting and disconnecting chain. It's creating quite a stir."

According to one Ramsey engineer, the RKO tool can save hours when connecting and disconnecting chains on a typical IS machine or cross conveyor, confirming that a job that once required over an hour, can now be completed in 5-10 minutes. ■

ABOUT THE AUTHOR:

William Hall is President of Ramsey Products and Chairman of ASME Technical Committee on Silent Chain

FURTHER INFORMATION:

Ramsey Products, Belmont, NC, USA
tel: +1 704 394 9134
email: billh@ramseychain.com
web: www.ramseychain.com