



Product Application File
Kat-Trackers at
Caterpillar Stockton

at Gullco's Appley Bridge, UK facility from 60% standard Gullco products. This enabled Gullco to meet critical delivery deadlines established to ensure Caterpillar production schedules were maintained. The machines are controlled by Mitsubishi PLC's programmed by Gullco [UK].

Gullco Equipment Used To Automate And Improve Productivity In Side Panel Welding At Caterpillar

The Caterpillar Stockton (UK) Ltd. plant selected Gullco International [UK] Limited to supply weld automation equipment/systems to improve quality and efficiency in a variety of M.I.G/M.A.G. welding applications. Gaffney Industrial and Welding Supplies Ltd. was chosen to support the sale and later service the Gullco equipment.

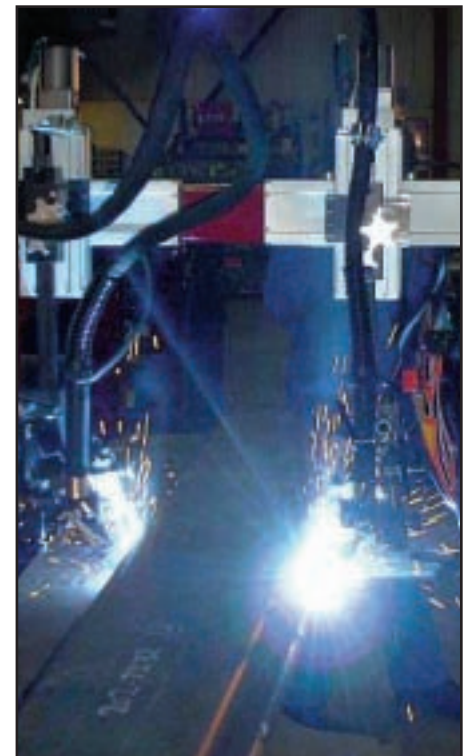
One of the applications involved Side Panel welding utilizing a twin torch system. The scope of

supply was for 4 complete, custom designed welding machines to be used for different jobs at the Caterpillar Stockton works facility. The unit pictured above shows a large Gullco travel carriage complete with wire feed units, fume extraction equipment, control equipment and two Gullco Kat-Tracker seam trackers. ITW, Miller welding machines with Binzel water cooled M.I.G/M.A.G. welding torches were selected for these demanding welding applications.

Fume extraction equipment was supplied by Nederman.

These large 6 to 12 meter long "turnkey" units were assembled totally "in-house"

Dual torches are used in these machines to substantially increase productivity and improve efficiency by welding two sides of a component simultaneously.



Above: Dual torches guided by Gullco Kat-Trackers simultaneously weld both sides of the work piece.





Left: Gullco Kat-Tracker probe with replaceable tip can be seen in the bottom left of the photo. They are precisely positioned relative to the torch prior to operation using a micro-cross-slide.

Below: Gullco Kat-Trackers continually sense the slightest variation across the weld seam and automatically correct the position of the weld torch.



Weld accuracy and quality are dependent on precise seam tracking and a reliable electrical interface of all

the components via the PLC. In order to meet the production and quality requirements at Caterpillar, the Gullco Kat-Tracker WSG-1200 was selected. These tactile seam trackers continually sense the slightest variation across the weld seam and automatically correct the position of the weld torch. They provide precise right/left and vertical/horizontal tracking plus automatic "tack detection" and "end-of-plate" detection. In total, eight Gullco Kat-Trackers were used in the 4 machines. Some use

100mm x 100mm slides where the work piece is approximately parallel to the fixture and each joint is approximately parallel to the other. In other cases the trackers were supplied with 150mm x 350mm slides to accommodate tapered work pieces.

As part of this project, Caterpillar purchased a Gullco GBM-28-U high speed portable, self-propelled plate edge bevelling machine. It is used to produce a clean machined bevel with no thermal distortion on thick

section plates at 2m/min. This rugged beveller with adjustable bevelling head can produce bevel angles 22 1/2° through 55°. The rotary shear principle incorporated by this machine results in low noise/vibration and high speed operation. This GBM-28-U unit bevells the under side of the plate.



Above/Below: GBM-28-U produces clean machined bevells on the underside of plate at up to 2 meters per minute using the rotary shear method of metal removal.



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