SESSION 4

PAPER (e)

LOGQUIP SMART ARCH

DEVELOPMENT OF THE CONCEPT

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DESIGN AND CONSTRUCTION

Imagined by Nelson Pritchard, designed by Robbie Linton and built by a Putaruru Engineering firm, the Logquip Smart Arch is the most exciting thing to happen in small wood thinnings for the past 15 years.

The use of small crawler tractors to thin steep country has increased significantly over the last 3 or 4 years. One of the disadvantages of the small tractor, however, is the poor weight distribution when the machine is loaded. Particularly when it is rigged through an integral arch and the towed sulky arch has not proved to be a popular option with small crawlers in thinnings. The Logquip Smart Arch is an attached arch concept which combines the portability of an integral arch with the bed carrying capabilities of a towed sulky.

The Smart Arch is connected to the crawler by two brackets located behind the track frame. It consists of an 'A' shaped frame which surrounds the crawler's winch and supports the fairlead on top and a dual-tyred castor wheel underneath. The castor wheel can rotate freely through a 360° arch and basically supports the whole weight of the drag accumulated under the fairlead. The whole arch assembly can pivot from the brackets attaching it to the tractor and therefore by wrapping a strop through the fairlead and back onto the safety canopy it can be lifted clear of the ground. This leaves the crawler free for blading, skid work and positioning in the bush.

EFFECT ON LINTON'S THINNING OPERATIONS

The Smart Arch has been operating efficiently for the past fourteen months, attached to Robbie Linton's D3B tractor. Machine performance has been radically improved because the Smart Arch has enabled bigger drag size, faster cycle times, uphill extraction etc which result in productivity gains and increased payloads. The machine is available at the flick of a strop for blade work, fleeting up on the skids and positioning in the bush.

Longer term advantages of the Smart Arch include extended track gear and drive chain life because the weight of the drag is evenly distributed along the length of the machine.

SUMMARY

There is no doubt that the Logquip Smart Arch is a tremendous asset to small wood thinnings by improving maneouverability, increased drag loads, faster cycle times, reduced wear and tear on drive chain and track gear etc.

The arch has proved to be very cost effective, costing an estimated 53 cents per tonne over three years, pulling 30 tonne a day.