Logging Innovations

Steep Slope Harvesting Technologies

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Initial Concept

- To provide employees with a safer working environment
- 2007 approached Trinder with concept of bolting a winch to a digger
- Developed concept over 12 months with significant change along the way
- 2009 purchased Hitachi ZX280
- Purpose built winch fully integrated with track drive system.
- Touch screen display to alter winch parameters
- Patent application lodged 2010
Achievements

Hitachi Prototype 1

In the past 3 years Kelly Logging has:
- Minimised manual felling and breaking out on slopes up to 50°
- Achieved extended periods of total mechanisation
- Increased daily log production by 25% in some harvest areas
- Over 6000 hrs with Hitachi ZX280

ClimbMAX Prototype 1:

- Testing began in 2012 for ClimbMAX
- Basic operation the same as Prototype 1
- Biggest gains have been in windthrow
  Results from can’t harvest to 300% increase
- Clear Fell Hauler increase from 20-40%
- Over 1500 hrs with ClimbMAX ZX400
- Increased options in both hauler and ground based operations
P2 Design & Development

- Hitachi ZX 400
- Front mount winch (top side)
- 380m x 7/8” swaged rope
- Trinder designed blade
- Trinder boom & arm
- Trinder head with retractable saw box
- Other modifications include:
  1. Extra high and wide chassis
  2. Increased oil capacity
  3. Increased fuel capacity

P2 Performance

- 1500hrs completed to date
- Significant increase in:
  1. Slew torque
  2. Lift power
  3. Tractive ability
- Operator comments
  “Compared to other machines I’ve operated it just sticks to the hill”
  “It’s powerful very nimble and well balanced”
Where to from here KH

- Confirm redeveloped hydraulic and electrical design
- Adoption of Best Practice Guidelines
- Continue to collect slope and soil data
- FFR/Scion productivity studies
  1. Increase productivity
  2. Reduce unit cost
- Develop commercialization plan
- Reduce worker exposure to risk in both breaking out and pre-fall tasks

Where to from here NK