



“Hardcore II” – A Hard Act to follow!

OEE Improved by 40%

More medals are heading over to the “Land of the Long White Cloud” as “Hardcore II”, an Operator Equipment Management (OEM) team from Carter Holt Harvey Consumer Brands won Bronze at this year’s TPM³ Best-of-the-Best Team Competition. The proud “Kiwi’s” hale from Te Rapa, a small converting site located in Hamilton New Zealand. The site produces bathroom tissues and disposable kitchen towels.



So how did the Hardcore II team get 8 operators from 4 shifts to agree on cleaning, inspection and lubrication standards—while at the same time communicating effectively and creating ownership of their equipment? Let us explore their journey.

Act 1 – In The Beginning

The team kicked off OEM in July 2002 with the area of TPM³ activity defined to include a Corewinder machine, unwind stand and core conveyor. The following Hardcore II team mandate was also confirmed.

Team Mandate

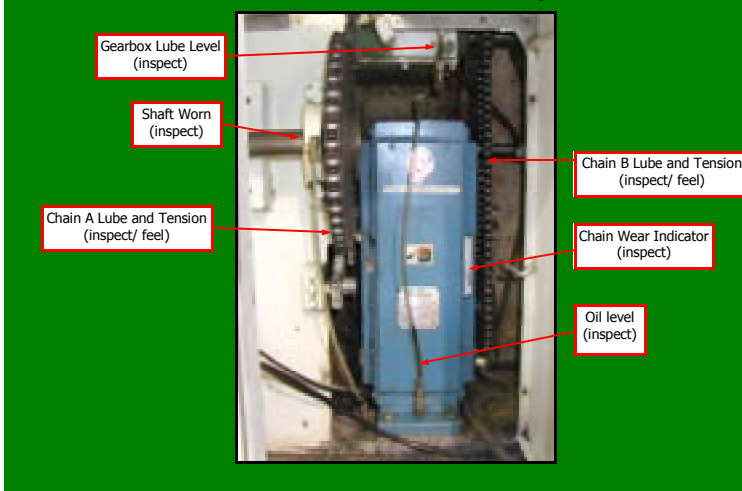
For the Corewinder machines, we will work through the 10 tasks of OEM to achieve and sustain a final audit rating over 80% before the end of December 2002



Act 2 – The Big Clean

After some considerable preparation the “**Initial Clean for Inspection**” was conducted and well supported by the leadership team. The team members were pleased to see the Site Manager in overalls working side by side with them. A Defect Identification Process was established as shown at left and over fifty defects were identified, tagged, registered on the Defect Register and forwarded on to the Maintenance Planner.

Corewinder PIV Gearbox Inspection



Act 3- The Easy Way to Clean!

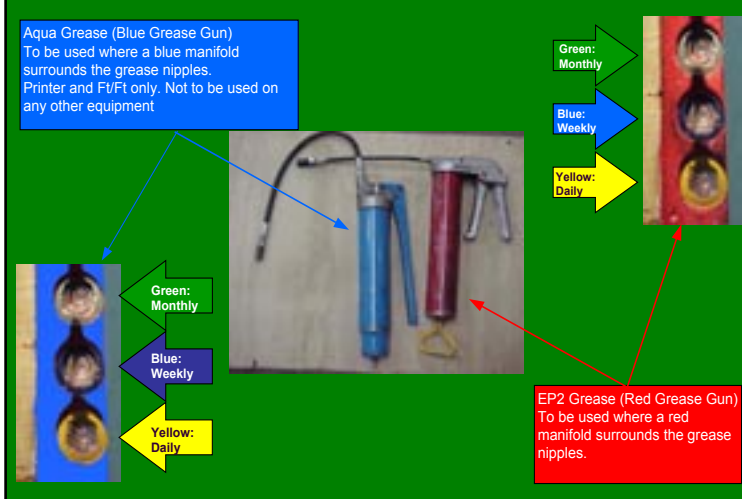
After the Initial Clean for Inspection was completed, the team developed ongoing cleaning and inspection standards and procedures. The team approached this task in three parts.

- They identified all items that required regular cleaning and inspection.
- Frequency and standards were established for cleaning and inspection and recorded on a register.
- All standards and frequencies had to be agreed by all shifts.

Act 4 – Using the other Tools

During the presentation the team gave details of eight improvements they had completed. They were presented in simplified before / after TPM³ Improvement sheet format. These improvements reduced the manning levels from 3 operators to 2 and reduced Re-winder downtime cost to \$16,000 per annum.

Lubrication Visual Controls



The good use of Visual Controls has made the lubrication system developed by the team easy to understand / educate and apply.

Hardcore II have made some excellent gains, especially in the education and training of the core-floor operators. Here is what one team member had to say.

“I have learnt more about the Corewinders during the OEM process than in the last 4 years I have been operating them”

Alasdair MacDonald – Red Shift Operator

Training and Education

T.P.M	Date: 15th November 2002	Document No: 0004	
One Point Lesson	Initiator: Hard Core OEM Team	Prepared By: Wayne Versey	
Theme/ Topic: Identifying Chain Wear			
Diagram of a new chain (top) and worn chain (bottom)		Roller Chain and Sprocket Inspection	
<p>Identify worn chains by looking for looseness in chain links Note: Both chains have the same amount of links</p>		<p>Chain Ride on Sprocket – Chain should turn smoothly around sprocket. Snatching or jumping is caused by low tension, uneven load, or bad alignment of sprockets.</p> <p>Chain Tension – If chain is stretched out so no further adjustments are possible, it must be shortened or replaced</p> <p>Chain Con Link – Check that the chain con link spring clip is secure</p> <p>Sprockets – Check if sprockets have badly worn teeth (see diagram), if so replace both the chain and sprockets. Make sure that sprockets are secure and aligned</p> <p>Lubrication – Lubricate chain with chain spray</p> <p>Chain Guard – Assemble chain guard and operate chain to check if it strikes the guard. Check any unsafe condition and check the guard is secure.</p> <p>Note: When replacing a new chain, ensure the correct chain is used, Metric or Imperial, correct size of chain and the sprockets are in good condition</p>	
<p>Diagram of damaged sprocket, resulted from a worn chain</p>			
Training Tracker	Blue Shift Date:	Orange Shift Date:	Green Shift Date:
			Red Shift Date:

The development and extensive use of One Point Lessons was one of the tools used to achieve the education and training.

Also an Operator Induction package was developed for new operators. Education in the fundamentals of lubrication and training in operating, trouble shooting procedures was also conducted.

Act 5 – OEM = Win / Win ☺

The Hardcore II team successfully achieved their mandate by sustaining a final audit score of 82% before the end of December 2002.

They also achieved the following benefits:

- Corewinder OEE improved by 40%
- Impact across 3 production lines= \$345,000 pa
- Reduced manning levels saving=\$39,000 pa
- 65% reduction in Kraft waste=\$10,000 pa
- Improved staff morale and team work
- Minor defects and equipment adjustments performed by operators, freeing up engineering resources.

Finale

Now for one last quote. *“The good thing about OEM is that we are finding defects before they become failures”* - Simon Macaskill-Maintenance Planner.

And that is what OEM is all about!



Teams working on their One Point Lessons and Noticeboards during TPM³ Action 2003 Forum.

CALENDAR OF EVENTS

INTRODUCTION TO TPM³ (AUSTRALASIAN 3RD GENERATION TPM) 2 DAY INTERACTIVE WORKSHOP

Auckland	4 & 5 March 2004
Adelaide	9 & 10 March 2004
Perth	11 & 12 March 2004
Brisbane	18 & 19 March 2004
Sydney	25 & 26 March 2004
Melbourne	1 & 2 April 2004

TPM³ ACTION 2004 ANNUAL NETWORKING FORUMS

Rotorua	
Centra, Rotorua	25 & 26 May 2004
Melbourne	
Rydges, Carlton	25 & 26 August 2004

TPM³ PILLARS

SERIES OF THREE, 1 DAY WORKSHOPS

Auckland	5, 6 & 7 May 2004
Melbourne	12, 13 & 14 May 2004
Sydney	19, 20 & 21 May 2004

- Day 1** - Cross-Functional Core TPM³ Pillar (FE&PI)
- Day 2** - Area-Based Core TPM³ Pillars (WAM / OEM)
- Day 3** - Support TPM³ Pillars (MEM / L&SI / NE/PM)

TPM³ INSTRUCTOR'S / LEADERSHIP COURSE 5 DAY LIVE-IN WORKSHOP

Wollongong	
Quality Hotel City Pacific	21 - 25 June 2004