CONTRACTOR MAINTENANCE AND OWNERSHIP POLICIES IN CANADA

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INTRODUCTION

You heard Craig Lyon's paper on Wednesday morning entitled "Machinery Numbers --- What's Out There?" That brought us up to date on the types of equipment owned and operated by contractors in New Zealand, their crew size and support facilities. This morning's session deals with various strategies to attack maintenance problems.

My paper deals with both ownership and repair. I want to talk about the eastern Canadian logging contractor, who he is, how he got to where he is, and how he keeps his equipment running. Some of the statements in here are based on bona fide research, and some are strictly my own opinions based on subjective observations over several decades.

This first section draws heavily from a 1988 FERIC survey which generated a CPPA paper entitled "Contractor Maintenance --- The State of the Art", and a FERIC publication "Contractor Equipment Maintenance: Problems and Opportunities".

Why do such a study? Anyone with a sharp pencil can figure that a large share of wood costs is represented by machine owning and operating costs, with repair and maintenance making up a big share of that. Some Canadian research attention had previously been given to maintenance strategies to reduce downtime in company fleet operations (Boyd 1976). Following a mass shift to privatisation of logging operations, most of the equipment became owned and repaired by contractors, in much the same way as happened here in New Zealand. It became a new ball game. We set out to meet the new generation of Equipment Maintenance Managers --- the Jobbers --- and find out their complaints, and maybe learn what the successful ones were doing right.

Who did we meet out there? We met with 53 contractors of all sizes across eastern Canada. A standard list of questions was used to guide the interviews. Some of the results are summarised below.

CONTRACTOR PROFILE

Annual cut volume:

When looking at the annual volume only, two size groups were apparent. Eleven percent of the sample group were in "large operations", with 225 to 300 thousand cubic metres annual cut. Three quarters had annual production between 25 and 100 thousand m3, with the most common scale being 50 to 75 000 m3. There is a "right" size, say 250,000 m3, for a large camp, and another size, around 70,000 m3 which will support a slasher, a delimber, two skidders and a feller buncher.

Capital Investment

The new replacement cost of the contractor's equipment is another way of describing who is out there. The 1988 Canadian dollars in the FERIC study have been roughly converted here to 1991 New Zealand dollars. Three quarters of the contractors interviewed had capital investments between $1.0 and $3.5 million. One-third were represented in the $2.0 to $2.5 million range. The actual depreciated value or market value would be more like $500 to $750 thousand.

Number of employees

The number of employees is not always directly related to the volume cut. Some operations which are labour intensive, with more employees, will have a lower total cut than other capital- or machine-intensive operations with fewer employees.

When the sample was classified according to number of employees, three size groups were apparent: 50 or more; 30 to 34; and 5 through 19. Over half the contractors had a crew size between 5 and 15.

Number of mechanics

For the purposes of this paper, mechanical repairs means running repairs, hose making, component exchanging and servicing. Dealers' servicemen are often brought in for major problems, rebuilding of components is jobbed out, and major overhauls are done at a fully equipped garage remote from the operation.

At 25 % of the operations, 2 to 4 mechanics were responsible for repairs. These tradesmen sometimes had other tasks such as driving the lowbed, "go-for" parts, installing culverts, etc.

On one-third of the operations, "Boss Jobber" or his partner did the mechanical repair.

When trying to compare operations, the statistics became unwieldy, depending on the degree to which the wood is processed. For example, one owner-operated delimber, in 200 days on double shift may treat 600,000 trees or 90,000 m3 through one part of the process only. Compare this to an enterprise where several machines and more employees handle less volume through the whole process from the standing tree to 8' piled at roadside.

CONTRACTOR SPECIES

Who is a contractor? How did he get to where he is? What is special about his machinery management practices? What support facilities and backup does he have for repair and maintenance? There are several distinctly different "species" of contractors and I have put names on them for this discussion, such as Owner-Operator, Contractor, Packsack Jobber, Bonus Foreman, Independent Operator, and Truckie. Keep in mind that this section is treated somewhat lightly, is over-simplified, and is not the result of a research project..

1) Owner-Operator:

The owner-operator has one machine which he owns, runs and repairs himself. He may employ one person to operate the cross-shift. Usually he sub-contracts to a major contractor or to a company operation. He may fit in any place with a cable or grapple skidder, or a delimber, feller buncher, slasher, log truck, loader, dozer, grader, gravel truck, etc.

A hypothetical scenario will help to explain the role of the owner operator, and at the same time touch on machine ownership policies:

A company owned an ageing skidder fleet. Repair costs were high, availability was low, and so was man-day and machine-day productivity. One of the more ambitious employee-operators purchased the company-owned skidder he was running. A production pay-back deal, probably with no interest charged, made the acquisition relatively painless. Now he had the privilege to repair his own machine. He also had the incentive to maximise production and minimise abuse to the machine. He paid off the machine, and with equity progessively increasing over the years he traded up to newer, more powerful units.

The time came for the company to mechanise further. Seeking improved costs through better quality, fewer accidents, and higher man-day productivity, mechanised delimbing was often the starting point.

Our owner-operator now had equity enough to go $1/3 million in debt for a new stroke delimber. It could have been a big new grapple skidder, or a mobile slasher.

He had already acquired some tools and his mechanical skills had grown. You know the list:

- a good 1/2" drive socket set and spanners (don't forget the 12" Crescent wrench)
- a 3/4" drive set and a long pipe and the knowledge how to use it
- cutting torches, an arc welder, and the skill to lay a good bead
- hose press, air compressor, generator set

- better utility vehicle,
- parts trailer (gypsy van or old school bus), equipped with vice, sledge hammer, special tools, a supply of hydraulic fittings and some 4 spiral wrap hose.

He had learned how to change a clutch, planetary, rear end, motor, radiator, etc.

Any owner-operator has to be lean and mean, in order to do all necessary repairs himself after running his machine all day.

Some owner-operators chose a tougher way to make a living, and acquired a feller buncher. It does not always break down beside the road where you can get to it with your ute.

Some brave souls got into cartage, a specialist field all of its own. Keep on truckin'.

2) Contractor or "Jobber"

The major contractor may be responsible for the whole process from "stump to dump", including cartage. More often he will handle the standing tree through to processed at roadside ready for cartage.

He has to get his employees to get the job done right, as a team. Since he is paid for the finished product, he has to ensure that, for example, the feller buncher makes the right size bunches for subsequent forwarding, the grapple skidder makes a neat stack at roadside for the delimber, the delimber does the right sorting and piling down for the slasher, or for the loader, or both.

Some contractors may have very little capital invested, hiring sub-contractors or owner-operators. In local vernacular, this operator is called a "Packsack Jobber". In many ways this is the simplest and easiest way to operate, where every employee is a contractor, and greed runs the show. The jobber is however, ultimately responsible for quality and quantity contractual obligations.

The operator I have called the Bona Fide Contractor owns, or is in debt for, some major equipment, such as a feller buncher, a big grapple skidder or two cable skidders, a delimber and a slasher. This operator, represented in 55% of the FERIC sample, typically ran a 75,000 m3 operation with $2.0 to $3.0 million in equipment. Usually one full-time mechanic was on the job. A lot of Boss Jobber's time was dedicated to solving mechanical repair problems. Likewise, the machine operators changed their own hoses, and did whatever operating repairs they could. Compare this with a traditional "company operation" in the recent past, where 2 day-shift and 2 night-shift mechanics plus a welder would be required or the operation would grind to a halt.

3) The Bonus Foreman

The large contractor in eastern Canada is responsible for an annual production of 250,000 m3 or more, an amount large enough to support a fleet of equipment and the required back-up service infastructure. He is rarely an independent producer. That is, his timber resource will be a block of crown timber within a paper company's license, and under their control. How did he get to that point?

Last year it was a company camp with several million dollars worth of machines and a giant garage empire. This year it is a contractor camp with the only visible change being that the foreman / contractor drives a ute with his own logo on the door. Having inherited a five-bay garage, parts warehouse, gantries, presses, diesel generators, cookery, and bunkhouses, he would appear susceptible to the same problems he was trying to manage last year on a salary.

What does the new bonus foreman do differently this year as an entrepreneur than he did last year as a company supervisor? There are hidden changes. He is no longer 100 % bound by company policies. He has the incentive to watch the loose ends, and make sure everyone is productive. Boss Jobber is ultimately responsible, so he pays more attention to what is spent on parts, and to the productivity of his shop employees. The parts inventory is no longer someone else's responsibility. He probably reduces the parts stock, sells some dead stock to generate cash flow, and sells some obsolete tools and facilities.

The number of mechanics on the payroll drops dramatically.

His parts man has to save his day's pay, every day, through some economy move. There used to be partsmen double-shift, now a lead mechanic keeps the parts-room keys and looks after the records. Each employee has to wear more hats.

He can have his mechanics re-life an old tractor in their slack times, which he sells for a profit.

For some reason employees will work harder for a visible, flesh and bone contractor than they will for an invisible "company". An employee-operator will now grab a wrench and assist the mechanic where last year on a company show he would not.

4) The Small Independent Operator

Then there are a few who run expensive machines, with the manufacturer's recommended stock of spare parts, who study the service manuals, who are beginning to understand hydraulic and electric schematics and are learning to trouble-shoot. These are not your average component-replacing back yard mechanics. They might be early forerunners of the "new breed of contractor" of the 21st century.

5) Truckies

There are some contractors whose interest is primarily cartage. The operation revolves around a good garage where productivity, costs and upkeep of trucks and loaders is top priority. The harvesting-to-roadside is sub-contracted and receives little concern. The loggers are considered simply a necessary evil to provide wood for the truckies to cart.

EQUIPMENT ACQUISITION

Part of any contractor's equipment management strategy is acquisition, or ownership.

As in New Zealand, some equipment suppliers have their own in-house finance department. Others prefer non-recourse cash deals.

So the machines which become the most popular are not necessarily the best, they are just the easiest for the contractor to acquire.

Here is another ownership scenario:

There is a $330,000 piece of equipment in a dealers yard. You need it for your business. The Iron Peddlar wants to sell it. You can produce a contract to show you have work for it. If the economic climate is right, you can deal.

You need to have $25,000 in your pocket today and plan on having the same amount in 30 days' time, five times. You also need to install a $7,000 SCAD fire suppression system which then permits you to pay another $10,000 to insure it before it leaves the dealer's yard.

If you can work, pay wages and buy fuel for five months, you will have paid the finance company $23,000 and can claim you have $112,000 equity or 33% in the machine. If you still have a contract at this time, and presume it will be renewed next year and the next, then your friendly finance company agent will be happy to talk to you about the next 36 months. You will give him $5000 every 30 days, instead of the $25,000 you were struggling with.

So it goes until the machine is paid off, and its salvage or trade-in value is equal to a down payment on the new replacement unit, which has gone up in price by that amount. So you pay for the rest of your life and the first 25 cents off every payment dollar goes to the finance company.

MAINTENANCE FACILITIES AND OPERATING STRATEGIES

Almost every contractor owns, or has access to a good sized garage for seasonal major service and repairs.

There are certain facts of life. A contractor has to be a good businessman. He needs to get some decent timber once in a while. He must somehow devise a strategy to keep the equipment mechanically available.

He has to build up a good crew of workers who are self-motivated, but tempered by the knowledge that if their machine is down, their earnings suffer.

The contractor has to buy right, and not become over-capitalised for the volume he produces. Preventative maintenance has to be more than just a word. He must service right.

He must keep some fast moving parts on hand, and follow up on warranty claims. He has to either be a mechanic, or employ a mechanic, or make sure that one of his machine operators is a trained mechanic. For practical purposes, a Motor Vehicle Repairer's certificate is not necessary.

Skill and experience is necessary. That means, fix the thing right. There is no use getting good at changing a certain component if it is a recurring failure. You have to get at the source of the problem.

The FERIC survey clearly revealed two polarized machinery management philosophies. One type of contractor used new equipment, in at least one case with a "maintained lease", and counted on high production and high utilisation. He worked the warranty system for all it was worth, and traded-in early while salvage value was still high. This was very capital-intensive, but produced efficiently with a smaller number of machines.

Another type of contractor never purchased new, but bought his equipment at auction sales. Keeping lots of spare machines, he employed maybe one mechanic for twenty machines. Low capital investment meant low owning cost, and spare machines meant no hurry to repair. This smacks of number 8 wire, and lots of cannibalisation. Incredibly, both contractors produce for the same price.

CONCLUSION

I wanted to introduce you to the Canadian contractor. He comes in all shapes and sizes, but likely fits into one of several generic groups. Those with a small annual contract must wear all the hats, that of manager, buyer, operator, repairer, partsman and janitor. Their repair facility is the back of a ute with a few tools.

Larger operations justify better support facilities and more hired specialists. No one starts large with all new equipment. It is an evolutionary process.

The successful operators have learned business management skills, they have acquired a good crew over the years, and they know their equipment service and repair requirements. They have also been fortunate enough to find some good timber on good ground at a fair harvesting rate.

There has been a historic "pendulum" swing from contractor to company operations and back again. It is obvious for simple economic reasons that the few companies who are still boxed into owning and repairing their own equipment fleets would prefer to job-out their logging to private entrepreneurs. So the swing toward privatisation is not yet completed.

For most contractors I have met, it is a source of constant frustration to not have cutting rights to a large enough volume to support an efficient operation. This suggests a pressure to grow in search of that "economy of scale". This growth might ultimately reach its level of inefficiency and signal the end of the pendulum's swing. This is not evident in the short term, and many feel that privatisation is here to stay for some time.

REFERENCES

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