

DOWNTIME AND UTILIZATION OF EQUIPMENT

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The concepts I have been asked to speak on are very broad in scope and application, so I would like to focus on clearfell extraction as an illustration.

In extraction we are dependent on the prime moving equipment to achieve our goal, so how we utilize this equipment is of vital importance if we are to get optimum production or output for the money invested. The alternative is lack of competitiveness, resulting in economic survival difficulties. (Wood users operate in an international market that is not a cost plus environment.)

So to explain my message let us look at a typical day in a tractor clearfell gang.

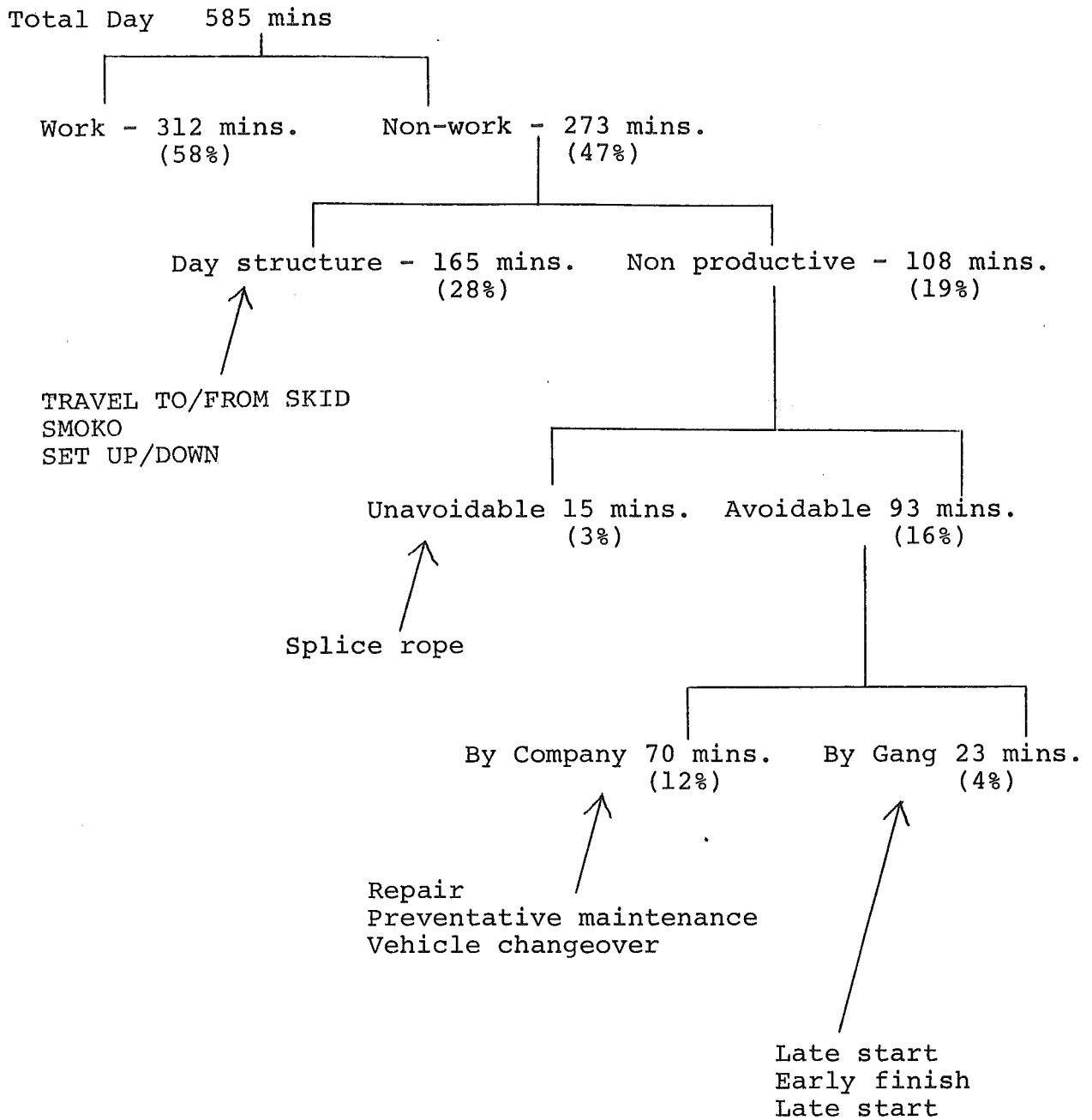
- Pick up should begin at 6.30 a.m., but the driver slept in (10 minutes late).
- As a result gang would have left the site at 7.10 a.m. except that the vehicle had to be changed, W.O.F. check. Therefore, leave the site at 7.20 a.m. (10 minutes lost).
- Arrive at stand 7.50 a.m. 10 minutes taken to warm tractor, check oil and water then grease machine. Therefore, machine starts producing at 8.00 a.m.
- Work continues until 9.52 a.m. Not enough time for another haul/drag before smoko. (8 minutes lost).
- Fellers arrive at skids/dump for smoko at 10.00 a.m. Gang gets into bus to drive to smoko. Arrive smoko hut 10.05 a.m. Start 35 minute smoko.
- 10.40 a.m. Discussion continues on the next stand for five minutes. (5 minutes lost).
- Drive back to skid.
- Work starts at 10.50 a.m.
- 11.30 a.m. main rope breaks. 15 minutes to splice. Tractor driver notices loose fan belt. Foreman radios garage.
- 1.00 p.m. Drive back to smoko hut. Arrive back 1.40 p.m.
- Limited wood down due to week of high wind. Breakers out unconsciously reduce drag size.
- Feller's saw breaks down 2.15 p.m. No spare, therefore extra breaker out.
- 2.55 p.m. Garage field service arrives to tighten fan belt. (Machine down for 30 minutes).
- Mechanic notices missing bolt on grousers so replaces it and tightens all others. (30 minutes).
- 3.55 p.m. Time for a quick drag.
- 4.05 p.m. Pack up, put gear away, fuel up machines, etc.
- 4.15 p.m. Head off home.
- 4.45 p.m. Arrive at first drop off point.

ANALYSIS OF DAY - PRODUCTIVE/NON-PRODUCTIVE

	<u>Productive</u>	<u>Non-Productive</u>
Late to site		10 minutes
Change vehicle		10 "
Drive to stand		30 "
Warm tractor)) Grease, etc.)		10 "
Work	112 minutes	
Idle		8 "
Drive to caravan		5 "
Smoko		35 "
Leave late		5 "
Drive back		5 "
Work	40 "	
Splice rope		15 "
Work	75 "	
Drive to smoko		5 "
Smoko		30 "
Drive back		5 "
Work	75 "	
Maintenance		30 "
Preventative maintenance		30 "
Work	10 "	
Put gear away		10 "
Drive home		<u>30 "</u>
TOTAL	<u>312 minutes</u>	<u>273 minutes</u>

Therefore, total day = 585 minutes

DISTRIBUTION OF TIME



What then is the effect of a 10% improvement in each area on the overall day?

- i.e. increase effectiveness of the working time ≈ 4.6%
- reduce Company caused downtime ≈ 1.2%
- reduce Gang caused downtime ≈ 0.4%

Therefore while it is important that the downtime is kept within a reasonable level, it is far more important to get the best value out of the working time we have because there lies the largest positive effect on the operation.

By this I mean WORKING SMARTER RATHER THAN WORKING HARDER.

We have looked at a typical day for a tractor gang, but the same things apply to all extraction operations.

We can consider all extraction equipment in terms of cycle time, drag size and number of pieces per drag.

i.e. Cycle time (time per haul/drag) : is the correct method being used, e.g. method of approach to breakout area; block change method; felling method - to allow easy breakout - to reduce breakage?

is the manning level correct, e.g. number of fellers, breaker outs and skiddies?

Drag size : is the drag size optimum for the conditions and equipment?

are logs being lost on the way to the skids?

Number of pieces : is the machine being overloaded in terms of number of strops?

could the small wood be accumulated a better way?

In short:

1. THINK ABOUT THE OPERATION;
2. PLAN AHEAD;
3. KNOW WHAT CAN BE ACHIEVED; AND
4. SEE THAT IT HAPPENS.

