

Fire Starts on Front-End Loader After Loading Bark (Wood Waste)

by Dave Amundson
Lumbermen's Underwriting Alliance

To help TPA members avoid accidents resulting in injury or damage to property, the Timber Bulletin, in association with Lumbermen's Underwriting Alliance, publishes details of actual incidents and what can be done to avoid such occurrences in the future. By sharing this information, TPA and LUA hope to make our industry as safe as possible.

Background:

In this situation, a front-end loader (wheel loader) was used primarily to load open top vans with bark (wood waste) from a sawmill. This machine was

Lessons from Losses

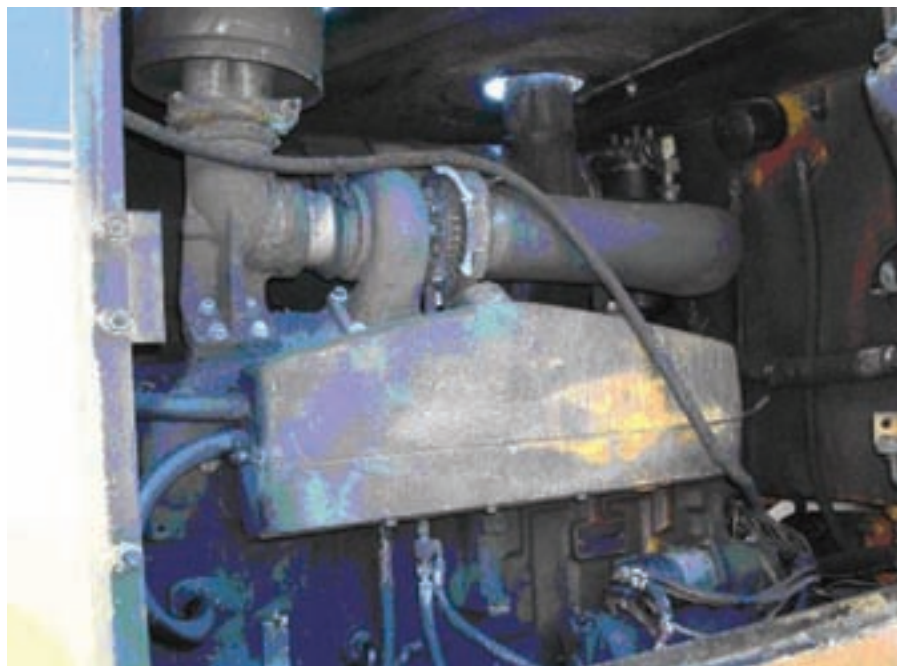
equipped with one ten-pound multi-purpose fire extinguisher and had a manual electrical disconnect (master switch).

Maintenance/ housekeeping was noted as good for the past year, with some electrical wiring having been replaced. Oil leaks were repaired as needed, and regular power washing had occurred. This particular machine was power washed within the week prior to the loss. Most maintenance needs were completed in house, with the exception of the large scale maintenance.

On the day of this occurrence, the weather was mostly sunny and dry with temperatures in the low 70s during the mid-morning hours and a strong south wind. In general, the weather had been very dry with very low humidity over the previous few weeks.

Operator:

The operator had worked for this operation for over 32 years and was considered trained in equipment operation and truck driving. This individual was noted to have a good work ethic and to be a loyal employee.



Damaged engine compartment of the wheel front-end loader.

Accident and/or Injury:

On a Friday late morning, a fire started in the rear of the engine compartment, causing damage to the components in this area. In addition to loading bark, the machine was used for various other duties around a sawmill setting (plow snow, repair roadways, etc.) It is estimated that this machine was only used for one to two hours per day.

Just before the operator was to use this loader to load his truck with bark, another employee had used the machine for a different task, which brought the machine's engine and hydraulic oils up to operating temperatures. The operator loaded his truck in a normal time of approximately 20 minutes, parked the loader, boarded his truck and left the wood waste area. The loader was parked away from building values.

Other employees were in the middle of their lunch break and not near this area. Friday is a scheduled maintenance day with only some production occurring in the debarking and chip line areas, which would have been in sight of the bark pile and loader. As the maintenance crew was returning from lunch, they immediately saw

smoke coming from the rear of the sawmill. The crew assisted two other employees with portable fire extinguishers, which slowed the fire but did not extinguish it due to the fuel leakage. The on-site fire truck was used to completely extinguish the fire. Damage occurred to the electrical wiring, fuel lines, filters, hydraulic hoses, and possibly other internal engine and hydraulic components. The balance of the machine was not damaged (cab, tires, front and rear of machine). Repairs may be considered. No injuries occurred.

Unsafe Act and/or Condition:

In this particular fire, it is uncertain to know exactly what failed. Here are some unsafe acts that may have contributed to this situation:

- Operator didn't recognize the hazard created by the strong south wind blowing fine wood dust back onto the loader while operating.
- Low humidity created a very dry environment.
- Operator may have left the loader too hastily and did not check for hot spots or problems.
- Timing of fire was during lunch break when other operators had

left the area.

The most logical cause of the fire relates to housekeeping issues. When working in this dirty environment, the machine must be checked thoroughly prior to leaving it unattended. The strong south wind may have blown dry wood dust back onto the machine, causing a fire when the wood dust came in contact with the hot turbo area. Subsequently, the radiator fan blew embers to the rear of the engine compartment. This area appeared to have been the hottest area and was where the most damage occurred. One other cause may have been a sudden fuel leak, as the fuel lines, filter, etc. were burned, but not the hydraulic lines in the same area.

Preventative Measures:

1. Housekeeping (use of air, water power wash, etc.) needs to be a priority with all mobile equipment. Always complete this task on a regular basis and include all hot areas in your daily check.
2. Enforce proper employee work procedures when working in hazardous fire situations. Recognize dry weather conditions and the dryness of the product being handled so that precautions can be taken. Examples include the changing of loading to the up-wind side, so that wood dust does not blow back onto machine, and always thoroughly checking the machine before leaving unattended, etc.
3. Complete refresher employee training for proper operation, service, emergency response etc. for all new and existing employees. Weekly tool box safety meetings work well in reviewing all equipment. Cross training all employees is very beneficial.
4. Always shut down the electrical disconnect (master switch) on your mobile equipment during shutdown, during maintenance, and in an emergency situation. Refresher training for all employees and temporary operators needs to be reviewed regularly.
5. Practice fire extinguisher use and discuss the dos and don'ts when using this fire protection. Discussing this topic "hands on" will help in your preparedness in an emergency situation.

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