Rapid Lesson Sharing

Event Type: Forwarder Tip-Over

Date: August 29, 2014

Location: Deception Complex

Est. 2002

"Did that SOB go over?"

Heavy Equipment Boss

NARRATIVE

This August 29, a piece of heavy equipment working on contingency line of the Deception Fire in central Oregon, tipped on its side. There was no injury to the operator and no property damage to the equipment.

On this day, four pieces of heavy equipment—one Harvester, two Forwarders, and one Dozer—were on the Division assigned to build approximately one mile of contingency line.

The Harvester was cutting trees. The two Forwarders were moving in and out removing cut logs off the line. The Dozer followed behind, clearing debris and establishing fire line.

Two Heavy Equipment Bosses were assigned, one (HEQB1) supervised the Harvester and the two Forwarders. The other (HEQB2) supervised the Dozer.

Forwarder's Load of Logs Begins to Tilt . . .

After morning inspections and objective/safety briefings, all equipment began their operations. Ops were normal as the equipment worked up a relatively flat (10-20 percent) ridgeline. One Forwarder with a load of logs was working its way back to a landing when it approached a slight left turn in the line and small bump in the trail.

As the Forwarder came over the bump and made the turn, the load of logs began oscillating and tilted to the downhill side. The Operator—thinking that the load would settle—continued forward, knowing that it's typical for the machine to tilt like this when loaded. Normally, the load would settle because of the self-balancing mechanisms built into the machine. However, unbeknown to the Operator, one of the Forwarder's tires under the load of logs had become flat. This allowed the load to tilt more than usual. As the load of logs slowly tilted more, gravity took over and pulled the entire machine onto its side.

Radio Transmission Captures Attention of Everyone on the Division

The HEQB2 observed the Forwarder approaching, ensuring there was separation between it and the Dozer. He watched, in disbelief, the Forwarder tip over. HEQB2 moved quickly to assist the Operator.

The Forwarder Operator (OPER) called his coworker, operating the other Forwarder, to inform that his machine had just been laid on its side. This radio transmission captured the attention of everyone on the Division. HEQB2 reached the Forwarder almost immediately and helped him exit the cab by pulling and propping the door open with his hand tool.

The OPER stated that he was okay, just upset over the circumstances, as he proceeded to engage the machine's shutoff switches—including the fuel shutoff—before climbing out of the cab.

Upon hearing the radio traffic about the tipped machine, HEQB1—located ahead of all the equipment scouting and flagging line—started back down the line to the incident site. As he was moving, HEQB1 radioed to confirm the tipped machine and to inquire if the OPER needed medical assistance. OPER stated that he was fine, but that he had hit his head.

HEQB1 called Division to inform him of the incident and to request an EMT from a nearby Interagency Hotshot Crew and the Line Medic assigned to the Division to respond. At this time, the Medical Unit was also notified. The first Medic reached the OPER within five minutes.

When the HEQB1 arrived on scene 15 minutes later, the Medics had already cleared the OPER of injury and decided he was fit for duty. All personnel on scene discussed the situation, setting the priority to get the machine upright and operational again. The equipment operators developed a plan. Within an hour, the machine was back upright. Company mechanics were dispatched to run the Forwarder through the necessary steps to get it operational. By the next morning, the Forwarder was operating again. The company employees conducted their own AAR that evening and altered their approach to ensure safer practices in the coming operational periods.

LESSONS

- ✓ Branch and Division emergency and medical plans functioned properly and Line EMT was at the site within five minutes of the layover.
- ✓ The Operator was wearing seat belt and was not injured.
- ✓ The Dozer Boss witnessed the layover and was able to assist the Operator by holding the machine's door open, helping the Operator climb up and out of the Forwarder.
- ✓ Company training prepared the Operator for what to do in such an emergency. He shut down all systems and power, preventing damage to the Forwarder's engine and hydraulic system. This preventive action also limited fuel and oil spillage.
- ✓ There was no damage to the Forwarder. It was back in operation the next day.
- ✓ Another skid trail was established above the site so that line construction could continue and not create a hazard to the crew who was righting the Forwarder. A contingency plan was developed to protect the equipment from fire in case they were unable to move it to the road.
- ✓ The contractor held an AAR after righting and getting the Forwarder out to the road to review what had happened. During this review it was determined that a tire had gone flat on the haul. Thus, when the Forwarder made the turn, this flat tire allowed for too great a lean to the downhill side. With that knowledge, they looked for any adjustments or changes that they could make to the operational plan.
- ✓ It was determined to adjust load sizes so that the grapple would ride lower, therefore keeping a lower center of gravity**.**

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With support from the Pacific Northwest Wildfire Coordinating Group

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