

Rapid Lesson Sharing

Event Type: Spot Fire from Dozer Track

Date: July 5, 2018

Location: Klamathon Fire, Klamath National Forest

“Always take the time to get off the dozer, engine or whatever your busy “high-horse” may be, and make introductions.”

NARRATIVE

At approximately 1600 hours on July 5, 2018 during direct attack on the Klamathon Fire, a Type 2 bulldozer started a spot fire via grouser contact with a very hard volcanic rock substrate.

From the Dozer Operator:

Interestingly enough, about 10 minutes earlier, I had just got off the dozer and introduced myself to the Captain of Trinity River 4. (We’d been working together for the previous hour, but we were simply too busy to take the time to meet face to face.)

I asked him if he could scout a way through the rocks, so I could get up to the main ridge and start punching a line toward one of the many heads of this stiffly wind-driven fire.

As I was attempting to chisel a meager “hand line” with the short side corner bit through the rocks, I noticed a reflection of fire in a window that did not reflect where the main fire should have been. I immediately turned around to see a fire in wild oats/cheat grass approximately 10 feet by 10 feet in size. Before I could turn the dozer around, the 20-30 mph wind violently blew the spot fire upslope and into the surrounding stand of decadent blue brush—which immediately started torching out and spreading uphill toward my Line Scout.

The Spot Fire Grows

I immediately called my Scout on Tac7 as “Trinity River 3” to warn him of the developing situation. During this time, I was able to get turned around and made a pass over the developing head of the fire, to slow it down.

There was no response from the Scout. I called again—still no response. I was able to turn around and make another attempt at slowing the fire down, knowing there was no way that I was going to stop it. By now, the fire was well into the patch of blue brush. It was starting to run upslope and back toward the direction of the main fire.

My only hope was to slow it down until I could contact my Scout. All I could do was smash the individual bushes into the ground with the tracks to change the horizontal arrangement of the fuel.



Grousers

During this time, flames briefly lapped up on the thin laminate glass on the right door. The outer layer immediately fractured around the rubber window frame from the quick change in temperature. It concentrically cracked from the outside in, perhaps only 2-3 inches in toward the center, but it was an immediate event. The second, inner layer remained intact.

Lam-glass, while very weak and fragile, will hold together because of the sticky layer of plastic that holds the outer layer to the inner layer.

My hopes are that San Dimas will run a battery of tests on Lexan and other products that will hold up to the daily vigor's of the job.



A similar type of dozer to the one on this incident.

Contact!

On the third attempt to contact my Scout, I used his first name. To my relief, the use of his first name on the tactical channel finally got his attention.

I noticed that he turned around and saw the fire coming toward his position. He had a puzzled look on his face, but immediately began making his way back down the ridge and toward the windward side of the flank of the spot fire, coming directly toward the dozer.

Upon seeing the frivolity of the exercise, I backed off, notified Division Mike and asked for a helicopter to suppress the spot as it was probably 150 yards upslope of a check line that I put in, that the main fire had recently crossed.

A Skycrane, a Bell 212, and an A-Star arrived and began dumping water on inconsequential interior smokes between the spot and the main fire instead of the leading edge of the spot fire that was backing into the wind.

On round two, the Skycrane finally took note of the true head of the fire (which was steadily backing upslope into the wind) and applied the water appropriately—with the others following suit.

What I Learned

"I'm sharing this because I don't want the naysayers to doubt that they too can start a fire. It's just a matter of time."

When it becomes evident that it is handcrew country, back off and admit it. It's okay, the crew will forgive you.

Don't allow large numbers of folks to work "downwind or upslope" of your activity in rocks.

On this incident, if the entire crew had been upslope of me and it was a purely grass fuel-type, this could've ended very badly.

Playing the Odds for Many Years with No Bad Outcomes

This was a south-facing slope with 20-30 mph sustained winds right on the edge of the canyon that further accelerated the winds. Previously, I had seen sparks come off dozer tracks in the dark while I was on a hotshot crew in Region 3. And I've seen shards of steel on various rock piles that dozers have walked across on many DOZB/HEQB assignments. I also remembered my dad telling me to watch the rocks: "You'll start a fire."

But I have been playing the odds game for many years with no bad outcomes. I figured: "Seriously, what's the chance of one of these wanna-be sparklers actually catching and kindling a flame—something akin to winning the lottery?"

Go fight fire in West Texas and try to find a patch of potato dirt in that rock pile. Good luck! *“Never started a fire there, it won't happen to me.”* Well, I finally won the lottery. I'm sharing this because I don't want the naysayers to doubt that they too can start a fire. It's just a matter of time.

It all boils down to this. These smaller Type 2 Dozers just can't bust down through some of the more compact rocky soil types. You're basically running over rocks. The line you are cutting is a mediocre handline at best. That also means that you could just as easily start a fire on the green side. You don't have a consistent pad of dirt under both tracks to catch and extinguish the bigger sparks from the sparkler show. Hopefully the wind is sucking into the main fire so one may be able to tie it in—maybe not.

The bigger, Type 1 Dozers can usually bust down through these rocky areas and still cut a full-blade width line, where there is a bit of dirt. Therefore, many of these shards of hot steel have a much lower probability of ignition.

Dozers Starting Spot Fires

Conditions are changing rapidly on the fire ground and we need to openly acknowledge it in our safety meetings and breakouts.

There are many different types of rock substrates that play host to combustible vegetation. Undoubtedly, we are fighting a greater percentage of fires that are overlapping recent fire footprints. These are usually heavily-laden with a dense and fairly continuous grass understory, which not only is very receptive to ignitions from these types of glowing shards of steel, but will also contribute to a rapid and possibly dangerous rate of fire spread that could threaten personnel on foot.

Psychologically, firefighting personnel generally feel safe when a dozer arrives. They are not expecting it to potentially threaten their safety by starting a spot fire. Historically, most of the timber and brush fuel types we've been fighting fire in didn't have this pervasive element of RAPID FIRE SPREAD.

We have to adjust our thinking and our tactics when we recognize a change in condition and fuel type. It's not the same old simple game we're used to. Conditions are changing rapidly on the fire ground and we need to openly acknowledge it in our safety meetings and breakouts. It's ABSOLUTELY incumbent upon the operator to recognize this very unique “Swiss-cheese model” and either put folks on notice and out of harm's way—or seek reassignment to a more suitable section of line.

Watch Outs

Watch out for the volcanogenic rock types, not the soft cinders and pumice types, but the heavy and very dense Basalt Magma. It contains very little silica and a lot of magnesium and iron, which gives it the darker colors. Remember the saying: *“As Iron sharpens Iron”*? Even a ground-truthing scout (HEQB) will NOT notice how many sparks are really coming off your tracks during dayshift. And, as an operator, you have to pay attention to other things.

If you're back and neck are taking an exceptional beating, look for dents in the grousers. If the rocks are hard enough to be denting the grousers, I guarantee they are hard enough to start a fire. If you see dents you will likely see a good amount of steel transfer on the rocks. Combine that with low RHs and a steady wind on a side hill course where the dozer is wanting to slide across the slope and the effect is not really all that different than someone striking a flint into a bundle of tinder on an episode of “Man vs Wild”.

Crew Identifiers

Inmate crew logos on hardhats only identify the number of the camp, NOT the crew number of the crew! Both Trinity River 3 and 4 were on my Division. When I met the Captain of the crew working with me, I made a point to read his hardhat and I read the number "3"—not knowing that that was only the number of the camp. After I called him twice and got no response, I used his first name.

It just so happened that I was working with Trinity River 4 and the REAL Trinity River 3 was still working near the heel of the fire. I am embarrassed to say that I have been working with these wonderful crews for many years while serving on many different modules and never took the time to learn their numerical identifier system.

Print a list of inmate crews and keep it in your office. There are at least 43 Conservation Camps in California. Chances are will you work with a good number of them before your tour on the fireline is over.

Key Overall Lesson:

Always take the time to get off the dozer/engine/whatever your busy “high-horse” may be and make introductions. *Memorize the names of key folks you are working with, it could save a life!*

This RLS was submitted by: Jason Murieen – Dozer Operator

Related to Making Introductions:



Review this 2015 issue of Two More Chains

This issue explores the US and THEM mindset. It explains how and why we should do away with “Us” and “Them” and use “We”. Ground Truths covers why we need to “Be Nice” on the fireline.

<https://www.wildfirelessons.net/viewdocument/two-more-chains-summer-2015>

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