

Machine fire – burnt out harvester

The operator was processing trees when the machine's fire alarm system sounded, and he noticed black smoke coming out of the rear of the engine compartment. He exited his machine and lifted the rear engine hood,



the smoke ignited at that point. The machine's automatic fire suppression system activated, and the operator used his hand-held applicator to try to extinguish the flames. The fire was quickly out of control. The operator retreated a safe distance and called the fire brigade.

The worksite documentation with the emergency response plan - detailing the worksite Grid Reference and Postcode, had been left in the machine and due to the machine fire, were irretrievable.

Due to the delay in being able to direct the emergency services to the site, the fire brigade did not arrive until an hour later, by which time the machine was completely burned out.

The operator was uninjured.

No wider environmental impact occurred other than in the immediate fire-damaged area.

The post-fire examination of the machine determined that the initial cause of the fire was an electrical fault.

The harvester was just over a week back from having a major refurbishment.

General Discussion

Always carry your mobile phone with you when you are out of your machine (and/or a short wave radio handset if you are working on a site with poor mobile phone signal and you are staying in contact with your worksite colleagues with this method).

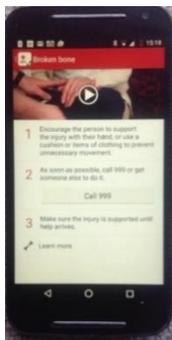
If you store your worksite documentation, including your **emergency response plan** in your machine or vehicle - think about the circumstances when you may be injured or become ill and require to contact the emergency service but do not have immediate access to this - such as when you are out of your machine - refuelling, undertaking maintenance or walking the next section you intend to work.

If you have a smart phone, think about taking a photo of your emergency response plan details – specifically the location details such as the site name, the grid reference and postcode, and hold it on your phone for the duration of the job.

If you are **lone working**, ensure your **lone working arrangements** are in place and that you regularly test that they are working.

If you have a smart phone, we recommend you download both of the following ‘free to download’ Apps. Both are available on the ‘windows store’ ‘google play store’ and the ‘apple app store’.

OS Locator will give you standard 2-letter 6-digit grid reference wherever you are, it does not require a mobile signal due to the inbuilt GPS. It also has a ‘share locator’ feature which allows you to send a text or email message pre-populated with your grid reference.



First Aid by British Red Cross.

It is the equivalent of an easy to use ‘first aider manual’ dealing with all the major injury and illness types. It also has short video clips for the main injury identification and treatment scenarios. Once downloaded it works without wi-fi or mobile connection.

Scottish Woodlands have created a Guide on **Machine Fires** which looks at machine fire prevention and response.

A copy of this has been distributed with this toolbox talk, if you have not seen it ask your Scottish Woodlands Supervisor, Manager or one of our Administration Team for a copy.

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Created by, Scottish Woodlands Compliance Support Team

WORKSITE EMERGENCY PROCEDURES/CONTACTS

LOCATION	
Worksite	Grid Ref:
Forest Access	Grid Ref:
Nearest Postcode	
Nearest Landline (if applicable)	
Nearest A&E	
WORKSITE CONTACTS	
Site safety coordinator	Mob No.
Main Contractor	Mob No.
Site First Aider 1	Mob No.
Site First Aider 2	Mob No.
Forestry Works Supervisor	Mob No.
Harvesting Manager	Mob No.

EMERGENCY PROCEDURES FOR INJURY		
Danger	Ensure site is clear of danger to you/others/casualty. (E.g. hung up tree, moving machinery, electric cables).	
Response	Check if the casualty is conscious and responsive.	
Airway	Check the airways are clear and unrestricted.	
Breathing	Is the casualty breathing?	
Circulation	Check and treat any major bleeding.	
Disability	Check for broken limbs/spinal injuries.	
Exposure	Keep casualty warm and as comfortable as possible.	
IF EMERGENCY SERVICES ARE REQUIRED - DIAL 112 or 999		
Good Access Sites	AMBULANCE	
Remote/Poor Access Sites	POLICE and request MOUNTAIN RESCUE	
OTHER EMERGENCY CONTACTS		
Powerline Incident	All Network Operators	105
Gas Line Incident	National Grid UK	0800 111 999
Major Oil/Fuel/Chemical Spillages	RAW – 24hr	0345 166 8491

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Guide 1.12 Machine Fires

Machine and vehicle fires are infrequent but high hazard events, for people, the immediate area, the worksite as a whole and the environment.

Starter motor, alternator, air conditioning units and the associated wiring, - rank high in the initial cause of machine fires. Think about how often you check and service these areas.

Forestry machines run at high temperatures and carry highly flammable liquids, oils and hydraulic fluids operating at pressure.

Diesel and Hydraulic Oil have low ‘fire points’ (the temperature they must be at before they will burn) in their normal liquid states, (diesel is more than 40°C, hydraulic oil much higher at 200°C).

However, both, when they are released under pressure, (through a small hole or tear in a hose or pipe), can produce a fine ‘mist’ which is highly flammable. It can be explosive or act like a flame jet when it comes into contact with a spark or hot metal. Think about the location of your fuel and hydraulic oil lines and how often you check them, especially at the joints and connections.

Some harvesting machines are susceptible to the build-up of forestry debris, such as needles and wood dust in the engine belly, especially when working in thinning or felling. Larch in the autumn or Lodgepole pine when it is losing needles with Coltrane. The fire potential of these materials can increase as they dry out inside the machine, are heated up and become impregnated with oil and grease. Think about the crop you are working in and how often you clean out this debris from the engine compartment, the belly pan and the differential plates.

If your machine is fitted with an automatic or semi-automatic fire suppression system, make sure it is annually checked and serviced by a competent person.

Where the manufacturer has supplied and fitted hand held fire extinguishers, these must be maintained in place.

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