

Combine Fires

The time for fall harvest is here. As with many farm hazards, those present in combine harvesting situations are usually recognized. For instance, belts and pulleys needed for operating many components will pull something into them at up to 66 feet per second. And, most recognize these speeds are beyond the human ability to react, not even considering the power that runs the machine and from energy in the machine. These and other hazards may be considered on a daily basis. But has there been any thought given to an incident such as fire?

As with most other farm incidents, combine fire are relatively rare single events. However, once a fire begins there is little the operator can do. This is due to the fact most begin in the engine area of the machine. As combines have gotten bigger in general, with larger processing areas and storage capacity, the operator cannot see the engine area without assistance. And, reaching the engine area of the combine requires some difficulty, particularly for older farmers with health issues such as arthritis, coronary or respiratory problems.

Given the drought across the majority of the row-crop growing region, and the forecast for similar conditions thru the harvesting season, the environmental and crop conditions themselves increase the chances of combine fires. Although the newer engines operate at lower temperatures, and have more guarding of the exhaust system, it is still a primary area of heat, and together both can then lead to, pardon the expression, a very combustible situation. Two particulars that can reduce the chances of conditions accumulating and causing a fire are following suggested cleaning guidelines and cleaning procedures.

General Cleaning Guidelines

The machine must be inspected periodically throughout the harvest day. Buildup of crop material and other debris must be removed to ensure proper machine function and to reduce the risk of fire. Frequency of inspections and cleanings will vary depending on a number of factors, including operating conditions, machine settings, crop conditions, operating speeds, and weather conditions. Inspections and cleanings may be required multiple times throughout the harvest day, particularly in dry, hot, and windy conditions.

Regular and thorough cleaning of the machine combined with other routine maintenance procedures as recommended by the manufacturer greatly reduce the risk of fire, chance of costly downtime, and improve machine performance.

Crop material and other debris can accumulate in various areas. Direction and speed of wind, type of crop, and crop moisture content can all impact where and how much crop material and debris can accumulate. Be aware of harvest conditions and adjust your cleaning schedule to ensure proper machine function and to reduce the risk of fire. Inspect and clean these areas as needed throughout the harvest day.

Harvesting certain crops can cause special issues. Some crops are very “sticky” and it is often more difficult to clean the machine when harvesting these crops. Examples of these crops

include sunflower, canola, and safflower. Take special care in cleaning the machine when harvesting these crops.

Cleaning Procedure

Always follow all safety procedures posted on the machine and in the Operator's Manual. Before carrying out any inspection or cleaning, always shut OFF engine, set parking brake and remove key.

Thoroughly clean machine from top to bottom. The use of compressed air is highly recommended to ensure adequate cleaning. First clean all areas accessible from engine deck. Start with engine compartment and work outwards and counterclockwise. Focus cleaning efforts on areas that collect crop debris or which reach elevated temperatures during machine operation. Once top areas of machine are clean, proceed to cleaning areas accessible from ground level.

From ground level, proceed to clean machine from top to bottom, again focusing on those areas which are prone to collecting debris or those that reach elevated temperatures during machine operation. Once the cleaning from ground level is finished, recheck engine compartment for any crop debris that may have blown in from ground level cleaning

What to Do

Provided you have fully charged and proper category (ABC) 10# fire extinguishers, one in cab and one accessible from the ground, such can be used if a fire arises. HOWEVER, the first thing to do is call 911, if service available, or the nearest fire department BEFORE trying to extinguish a fire. And, if you suffer from any of a variety of health issues, just get away from the fire. Combines are expensive but not enough to risk yourself.

By using the usual suggestions for pre-harvest preparation and regular and thorough service and maintenance as well as the cleaning guidelines and the cleaning procedures above, you will go a long way towards avoiding a combine fire that could have occurred.

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