Cotton Harvesting Safety Practices



The modern mechanical cotton harvester is a large machine with many fast-moving parts. Skillful operation is necessary for the safety of people on and around the machine and for effective machine operation. Here are some general recommendations for operators of cotton harvesters in California.

Before starting the mechanical harvester, put the mechanism or transmission in the neutral or park position. Engaging the starter with these systems in gear may result in a sudden, unexpected movement that could injure the operator or others.

- Avoid high-speed stops and turns, uneven terrain, and soft ground. Operation under these conditions may result in a rollover.
- Keep all safety shields in place when operating the harvester. They keep your hands and clothing out of moving parts.
- The harvester should be equipped with an effective fire extinguisher.
- Wear close-fitting clothing and stay alert to keep from becoming entangled in moving parts.
- Keep hands and feet away from moving parts.
- Never carry extra passengers.
- Learn hand signals and use them to communicate with others during operation.
- Lock brake pedals together before operating at transport speed. Keep brakes adjusted evenly. This is important when moving any equipment at transport speeds to maintain equal braking pressure on both wheels.
- Use warning lights, reflectors, and a SMV (Slow Moving Vehicle) emblem when transporting the harvester. Let other motorists know you’re on the road. When possible, plan your operation to avoid nighttime travel.
- Disengage the power, shut off the engine, and wait for all parts to stop moving before lubricating, adjusting, or servicing the harvester.
- When lubricating parts that must be in operation when serviced, wear close-fitting clothing, follow manufacturer’s instructions, and keep your mind on the job you’re doing.
- Always use safety supports and blocks when working on, under, or around the harvester. This keeps the machine from rolling or falling on you.

FIELD OPERATION

Many cotton harvesters are equipped with large overhead baskets to store cotton as they move through the field.

Cotton from this basket is dumped into a module builder. Safe and efficient operation of this equipment depends upon following safety practices:

- Reduce travel speed when moving over rough or uneven terrain. Cotton harvesters are top heavy even with empty baskets. High-speed travel could result in a rollover.
- Keep your harvester safely away from ditches, creeks, and other steep, sloping ground. Keep end rows smooth and firm. Steep slopes and plowed turnrows make turning difficult, and may cause a rollover.
- Reduce engine speed before braking or turning. Quick stops with the high-profile cotton pickers can result in the machine nosing over. Fast turns can result in rollovers.
- Remain seated when raising or lowering the basket on a tractor-mounts stripper. A sudden drop of the basket could result in a serious head injury to anyone standing in the wrong place on the operator's platform.
- Keep everyone away from module builders in the field. Be sure there is no one in the module builders before dumping. A load of cotton falling into a module builder could seriously injure or suffocate someone trapped inside.
- Be sure you're clear of electrical wires before raising or dumping a basket. A raised basket may reach a height of 25 feet, and if it makes contact with a power line, you could be electrocuted.

CHOKE UPS

Many cotton harvester accidents can be prevented by avoiding choke ups.

You can do a more efficient job and reduce the risk of injury by keeping the main harvesting components (the picker drums, stripping rolls, and the reel on fingertype strippers) free of weeds, rocks, and stumps.

To prevent choke ups:

- Practice good weed control and keep fields clear of rocks and stumps. A cotton harvester operating in a clean field is less likely to choke up.
- Adjust all belts and chains on the harvesting unit according to instructions in the operator's manual. A belt that slips or a chain that jumps can allow the harvesting unit to choke up.

When a picker head chokes, disengage all power and shut off the engine. Wait until all parts have stopped moving, and then remove the obstruction. Rotate the doffer by hand until the obstruction can be removed.

Never try to start the picker drum turning by engaging the power and pushing the spindles with your foot. If the obstruction suddenly breaks free and the picker unit turns under power, it will endanger any part of the body near the spindles. After removing the obstruction, return to the operator's station, start the engine, and engage the power. If the clutch continues to slip, check for other obstructions or for bent picker bars or doffers.

If the stripping unit starts to choke up, disengage all power and stop the engine. If you attempt to unchoke the stripping rolls, augers, or reel while they're moving, you could be seriously injured.

FIRE HAZARDS

Before cotton is harvested, the plant is killed either chemically or by frost. This means that highly flammable leaf trash and dead plant parts get mixed in with the lint.

Cotton lint is also flammable. When such materials accumulate, fires can start

easily.

Take these precautions to prevent fires during cotton harvesting:

- Keep the engine clean. Lint, leaf trash, and other dry materials on a hot engine could catch fire.
- Clean the area between hot engine parts and the hood periodically.
- Check exhaust pipes and the muffler often for leaks. The exhaust gasses or sparks could start a fire.
- Use only water or the manufacturer recommended product as a moistening agent. Petroleum-based moistening agents increase the fire hazards.
- Always dump the basket downwind into the module builder. Dumping into the wind could result in cotton blowing back onto the engine and start a fire.
- Keep the doffer area free of lint and trash to avoid fire caused by friction between the spindles and trash.
- Prevent arcing at electrical terminals. Cotton lint or trash around the battery terminals and other electrical contacts can catch fire. Keep all terminals and contacts clean and tight.
- Mount an all-purpose fire extinguisher where it will be readily available in case of fire. Use the pressurized, dry- chemical type approved by Underwriters Laboratory-five to ten pounds or larger. When using an extinguisher, aim it at the source/base of the fire, not at the flames.

SERVICE

Cotton harvesters must be serviced regularly. These machines are unique in some ways, and proper maintenance is required for effective and safe operation.

Follow these guidelines:

- Wear close-fitting clothing and stay alert while lubricating picker bar cams, cam follower bearings, and spindle drive gears. This job must be done while the picking unit is running on some machines. Check the operator’s manual for the correct procedure.
- Disengage power, shut off the engine, and wait for all parts to stop moving before removing dust from v-belts on cotton harvesters. These belts often become covered with a fine dust glaze when harvesters are operated under dry conditions. They should be cleaned frequently.
- Use the ladder and handrails when working on top of the basket. A fall from the top of the basket could injure you seriously. If the basket lid is opened, secure it to keep it from closing accidentally.
- Block the picking unit before lubricating the lower doffer bearings. Use a solid block that will fully support the unit. A sudden loss of hydraulic pressure could result in the picking unit falling on the person working on the unit or another person could move the controls, allowing the unit to drop.
- After servicing, replace all shields and guards before starting the machine. Shields and guards are designed to protect you from moving parts, but they can do their job only if they’re kept in place.