

G-31

MAINTENANCE MECHANIC TRAINING

TRAINER'S GUIDE

Duty G: Conveyors

G-31: Replace Belt (Product)

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Instructions To The Trainer

1. The Learner will contact you when ready to practice replacing a product belt.
2. Be prepared to demonstrate the steps for this task.
3. Ask the Learner to contact the Evaluator when ready for the Skill Check.



Skill Objective

Given a repair ticket to replace a defective product belt on a conveyor, replace the belt.

Task Standards

1. The belt must run without catching or slipping.
2. The belt must run centered on the conveyor, without side-to-side movement.
3. All safe practices must be demonstrated.

What The Learner Will Need

This section contains the safety information, tools, and resources you will need before replacing a product belt.



- Follow all Caterpillar facility safety standards when performing this task.
- The conveyor drive motor must be locked and tagged when the defective belt is removed and during new belt installation.
- Check to ensure that the conveyor is unloaded before beginning the replacement procedure.
- If there is a possibility that material could be dumped from the hopper, lock out the hopper.
- If the conveyor is located in a dusty area, wear a protective mask, as necessary.
- If the conveyor is located overhead and a ladder, manlift, or scaffold is necessary, exercise caution when working aloft. Wear a harness, as necessary.
- Wear gloves to protect your hands. Conveyors and conveyor service equipment can present hazards such as pinch points, rotating and moving equipment.



- two belt clamps
- transporting equipment (for transporting belt)
- hoist (to support belt during removal and installation) or other means available
- air drive socket
- belt cutter

- cutter guide
- belt fasteners
- air drive socket (special equipment for fastener nuts)
- belt tape
- fastener template
- fastener bolt hole drill
- large framing square
- clamps or nails (for cutter guide and fastener template)
- 2 x 4 piece of wood
- hand-made custom tool or a standard bolt-breaking tool
- remote conveyor jog switch (optional)



- Repair Ticket (Service Order)
- machine parts list
- belt location map
- procedure for adjusting and training sand belts



Practice Set-Up

The Learner may perform the following practices to help prepare for the Skill Check. Set up the practice for the Learner. Assist the Learner during the practice, if necessary; answer any questions concerning the task; and be prepared to demonstrate the task to the Learner. Make sure the Learner follows safe work practices while practicing the task.

Practice 1

Ask the Learner to cut the old belt. The Learner will have to lock out the power to the belt drive motor before preparing the belt for cutting. Observe the Learner position the belt clamps to ensure that the steps are performed safely.

Practice Objective 1

The tail pulley must be aligned. The belt must be cut square, when checked with a framing square. All safe procedures associated with cutting the belt must be demonstrated.

Practice 2

Ask the Learner to install the new belt. Installation includes removing the old belt, feeding the new belt onto the conveyor, and tensioning and training the belt.

Practice Objective 2

Sufficient tension must be maintained on the old belt to enable the belt to roll off the conveyor smoothly. The end of the new belt must be cut square. Fastener bolt holes must be drilled using the template. Belt tape must be installed under the top and bottom plates. When operated, the belt must not slip or drift side-to-side. All safe practices must be demonstrated.

Next Step

Allow the Learner to continue practicing and developing skills needed to demonstrate the task. The Learner should ask the Evaluator to schedule a Skill Check when ready to demonstrate the task unaided and meet all the task standards and safe work practices.