

# K-10a

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## ELECTRICIAN TRAINING

### TRAINER'S GUIDE

Duty K: PLC (Allen-Bradley)

K-10a: Replace Processor

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## **Instructions To The Trainer**

1. The Learner will contact you when ready to practice replacing a processor.
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**

If a processor is faulty or if a new installation is required, replace the processor..

### **Task Standards**

1. The Learner configures the replacement processor's DIP switches to match the original unit.
2. The program that the Learner reloads is identical to the program running prior to the installation.
3. The machine operates within specifications and meets production requirements.

## What The Learner Will Need

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

### **SAFETY FIRST**

**DON'T TAKE  
CHANCES**

- Follow all Caterpillar Facility Safety Standards when performing this task in the plant.
- Use caution when working around the PLC; high voltage is present on the inside of the PLC cabinet door and near the input/output (I/O) chassis.
- Guard against ESD damage. Remain in contact with an approved ground point while handling the module. Do not touch the backplane connector or connector pins.
- The power to the chassis must be off before removing the processor. Check to ensure that the status indicators are not illuminated.
- Be careful when working near moving or rotating machinery.
- Wear safety glasses and hearing protection in assembly and production areas.



- PC equipped with PLC software
- PLC replacement unit
- Interconnect cable
- Processor Keyswitch Key (if the processor is not in the REM position)
- Password (if necessary)
- Basic electrical hand tools
- Copy of current PLC program
- Floppy disk (to back up the program if a current copy is not available)
- Electrostatic grounding device



- User's Manual for replacement processor



## **Practice Set-Up**

The Learner may perform the following practice 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**

Designate a PLC location to practice replacing a processor. Check the crib to make sure that there is a replacement unit available. Look at the DIP switches on the processor that is in the rack (the processor that will be removed). Set the DIP switches on the replacement unit so that they do not match the processor currently in use.

Inform the Electrical Technician responsible for the processor that the Learner will be asking for the backup copy of the PLC program for the reloading portion of the task. If a current copy is not available, ask the Learner back up the program before proceeding with removing the processor.

Observe as the Learner cycles the machine to verify that the PLC is operating properly after the Learner has reloaded the program. Ask the Learner to demonstrate the safe work practices while performing this task.

### **Practice Objective**

The Learner should replace the processor with a compatible unit. After reloading the program, the machine should operate within specifications. The Learner should demonstrate safe work practices.

## **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 whenever he or she is ready to demonstrate the task unaided and meet all the task standards and safe work practices.