

K-01b

ELECTRICIAN TRAINING

SKILL CHECK GUIDE

DUTY K: PLC (Modicon)

K-01b: Connect and Operate Programmer

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Rationale

This Skill Development Guide provides the knowledge needed to connect and operate a programmer. At Caterpillar, whenever communication with a PLC is required, the Learner needs to connect and operate the programmer and must exercise extreme caution when doing so. Connecting the programmer to the wrong PLC when using the on-line routing procedure could result in a machine breakdown or personnel injury.

Skill Check Set-Up

Select a PLC to connect and operate both types of programmers. Contact the Operator where the PLC is located to schedule a convenient time for the Skill Check. As a part of the task, require the Learner to perform a connection on-line to a remote PLC address. Ask the Learner to connect and operate the programmer demonstrating established communication by entering the Segment Status screen of the required machine program.

You must make available the tools, materials, and resources needed to demonstrate the task.

What The Learner Will Need

This section contains the safety information, tools, and resources you will need before connecting and operating a programmer.



- Follow all Caterpillar Facility Safety Standards when performing this task in the plant.
- You will perform this task on-line. Perform the steps carefully; mistakes could result in injury to personnel or damage to the equipment.
- Use caution when working around the PLC; high voltage is present on the inside of the PLC cabinet door and near the I/O chassis.
- Avoid having liquids near the programmer keyboard.



- P190 programmer (Typically used with the 184, 384, 484, 584, 884, and 984 processors)
- P230 programmer (Used with the 984 processors and the 184, 384, 484, 584, and 884 processors in the P190 emulator mode.)
- PLC communication cable
- Tape Loader Tape and Program Loader Tape (P190 only)
- Modicon Bus Plus (Used with all processors)



- Basic Help Keys, available on programmer software
- Modsoft Programmer User's Manual (GM-MSFT-001 Rev. F)
- Ladder Diagram printout
- Modbus Plus Data Highway Chart
- Machine Print



Skill Check

Upon determining a need to communicate with a PLC program, connect and operate the programmer.

Needs
Mastered Practice

Safe Work Practices

- _____ _____ 1. Follow all Caterpillar Facility Safety Standards when performing this task in the plant.
- _____ _____ 2. You will perform this task on-line. Perform the steps carefully; mistakes could result in injury to personnel or damage to the equipment.
- _____ _____ 3. Use caution when working around the PLC; high voltage is present on the inside of the PLC cabinet door and near the I/O chassis.
- _____ _____ 4. Avoid having liquids near the programmer keyboard.

Task Standards

- _____ _____ 1. Connection of the programmer results in communication between the programmer and the required PLC. Communication is established when the unit number of the PLC is entered and the programmer prompt allows you to continue without an error message.
- _____ _____ 2. Operation of the programmer results in your having access to the required machine program. Access to the program is established when the Segment Status screen is displayed.
- _____ _____ 3. You should be able to identify all the interfaces between the 984 and 184, 384, 484, and 584.



Evaluator's Sign-Off

The Learner has demonstrated safe work practices and competent performance of the task.

Evaluator: _____ Date: _____

Learner: _____ Clock No: _____