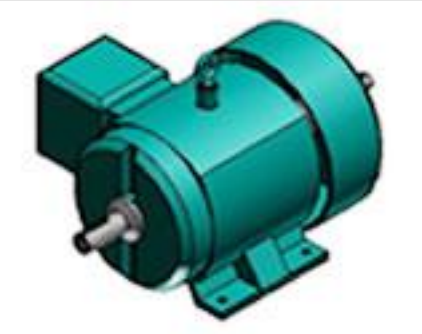
# GENERAL INSTRUCTIONS



STATE
INDUSTRIAL MOTOR CONTROLS
TECHNOLOGY

INSTRUCTIONS

OPEN THIS BOOKLET IMMEDIATELY

AND READ THE INSTRUCTIONS

THOROUGHLY.

## SAFETY INSTRUCTIONS

You ***MUST*** wear eye protection at all times while in the contest area. Use caution when working to reduce the risk of injury to yourself and others. Failure to wear your eye protection and work safely as required will reduce your contest score by 40 points.

## CONTEST DESCRIPTION

The contest consists of FOUR (4) parts. Each part is timed. You will be told when you begin each job how much time is allowed. You must stop work immediately when told to do so. Failure to stop immediately may result in disqualification, at the Judges option. Highlighted items will be taken on-line prior to coming to the conference.

**PART ONE, WRITTEN PDP TEST Tie Breaker 15 Minutes**

You will be required to complete a TWENTY question, multiple-choice test covering SkillsUSA knowledge.

**PART TWO, WRITTEN TECHNICAL TEST 20% 1 Hour**

You will be required to complete a FIFTY question, multiple-choice test covering aspects of electricity and motor controls occupations and NEC articles 430, 310-16, 240, and other motor, wiring, and control related problems.

**PART THREE, ELECTRO-MECHANICAL 55% 4 Hours**

Given a problem statement, you will be required to design and wire a control system which will solve the problem and draw the standard ladder diagram for your solution using standard notation. You will receive half of the available points for a working design and half for a working system. If you are unable to design a circuit which solves the problem, a schematic will be available for your use in wiring your system. You will be scored on simplicity of design, degree to which your solution meets the needs of the customer, whether or not your final assembly works properly, and neatness of workmanship.

**PART FOUR, CONDUIT BENDING 25 PERCENT 1 HOUR**

You will be given a test assembly or assemblies consisting of simulated walls, floors, obstacles and/or offsets which your conduit project must navigate. You will be required to measure the test assembly and bend your conduit. A judge will attempt to fit your bent conduit to the assembly. You will be scored on how well your conduit fits the assembly.

**PART FIVE, RESUME & TIE BREAKER Part of Skills N/A**

You will be required to present a resume to the judges upon entering the contest area. A deduction to your total score will be applied if you do not have a resume.
**TIE BREAKERS:** In the event of a tie, the tie will be broken by the high score on the following: (in order) Motor Control Solution, Conduit Bending, and Written Technical Test.

## GENERAL INSTRUCTIONS

1. You should read the instructions on the front of each section of the contest carefully. Wait until the judges tell you to begin. Further instructions are inside each test. Read these carefully, all the way through, before beginning.

2. After reading the problem statement, design a system which will solve the problem using the components available on your simulator board. This design, if it works, will be worth 25% of the contest. You may modify your design after you begin wiring it up, if you find errors or changes needed. If you cannot design a system to solve the problem, a schematic will be available, but you will not receive any points for design. You will be allowed to wire your design or the one on the schematic available and attempt to get it working. If you are able to wire a working demonstration, you will receive the 25% available for a working system. Remember, you have only four fuses, and no additional fuses will be available. Use your ohm meter to check for shorts BEFORE powering up.

3. Make sure you have completed all parts of each section before stopping. It never hurts to read the instructions again after you have finished to see if you remember doing everything.

4. Since mistakes in industry cost money, you will always be encouraged to check your work before applying power or sending it on as finished. High quality takes a little longer, but pays off in the long run. SkillsUSA-VICA stresses high quality. For these reasons, if you accidentally burn out a component during testing of your circuit, you will not be allowed to replace it with another component. If you complete your circuit and it doesn't work, ask the judge to help verify your wiring **before you change anything.** If the judge can verify that you were issued a bad component and your wiring is correct, you will be allowed to substitute a good component.

5. **Judges devote their time and, in many cases, money to see that the contest is successful.** While every effort is made before the contest to see that all contingencies are covered, some still may occur. That is why **the judges' decisions, in all cases, are final.**

6. Please follow all rules of the contest. You are all here in a spirit of **honest** competition. If you observe a contestant breaking a rule, please bring the infraction to the attention of a judge immediately. They cannot be everywhere at once. You may file a grievance after the contest if you feel something is out of order, but in most cases, to be effective, the infraction must have been brought to the attention of the judges during the contest. They will usually take action immediately to correct the situation.

7. **We all want to have a good time, play fairly, and go home happy.**

8. **If you compete fairly, honestly, and give it your best shot, you are a winner.**