

Student Name: \_\_\_\_\_

Unit No. **16****Part I.** Place the letter of the key term next to the correct definition.

Term	Definition
	In the VEX system, is a type of switch that is encased inside a plastic casing. It can be exposed to impacts without risking damage to the switch itself. For this reason, it is useful in any application in which the trigger can be high impact.
	A premanufactured grouping of wires that is typically wrapped in some sort of insulation or sheath. It is also referred to as a multiconductor _____.
	A point at which a mechanical system cannot go any further because it has hit a fixed limit.
	This contains _____ objects such as the wires, cables, ribbon cables, and segments that make up a wire _____, and optionally the connectors to which the wires and cables are attached. Multiple _____ assemblies can exist within an assembly.
	In the VEX system, is a type of switch with a function similar to that of a bumper switch. Unlike the bumper switch, this switch has a thin sheet-metal arm as its trigger mechanism, which can be bent into custom shapes for specific applications.
	Points added to electrical parts to indicate where to attach wires.
	Reference designator is a simple text string such as J12 or R15 that is used to uniquely identify electrical components and component occurrences within the context of a harness design. It maps the part to the schematic wiring diagram, or electrical connectivity data.
	A mechanical device used to make or break connections within an electrical circuit.
	Existing or custom objects in the Cable & Harness Library. Each has a specific name, color style, and outer wire diameter. Other optional properties can also be set, along with any custom properties you need.

**A.** Wire    **B.** Cable    **C.** Switch    **D.** Harness    **E.** Pins    **F.** Limit Switch  
**G.** RefDes    **H.** Bumper Switch    **I.** Hard Stop

**Part II. Fill in the blanks.**

A \_\_\_\_\_ is a mechanical device used to make or break connections within an electrical circuit. In robotics, these can be used by the operator to give the robot commands. They can also be placed on the robot to respond to external triggers.

A \_\_\_\_\_ switch is a type of switch that is encased inside a plastic casing. As its name suggests, it is designed to act as a shock absorber. It can be exposed to impacts without risking damage to the switch itself.

A \_\_\_\_\_ switch is a type of switch with a function similar to that of a bumper switch. Unlike the bumper switch, the limit switch has a thin sheet-metal arm as its trigger mechanism. By bending the arm, you can set up this switch to fit different applications.

Any mechanical system that has a \_\_\_\_\_ stop should have a limit switch. This is a point at which the mechanical system cannot go any further because it has hit a fixed limit (for example, an arm has jammed against the chassis, and cannot go down any further).

**Part III. Place the letter of the Inventor technical term next to the correct definition.**

Term	Description
	Creates a connection point for your wires.
	Creates a wire harness subassembly. All wiring is contained in this subassembly.
	Creates a single wire.
	Creates a wiring segment that determines the route for the wires.
	Routes wires through existing segments.

**A. Create Segment   B. Place Pin   C. Automatic Route   D. Create Harness**  
**E. Create Wire**