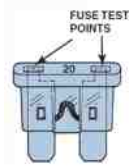




FIGURE 10-4 Blade-type fuses can be tested through openings in the plastic at the top of the fuse.



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FIGURE 10-5 Three sizes of blade-type fuses: mini on the left, standard or ATO type in the center, and maxi on the right.



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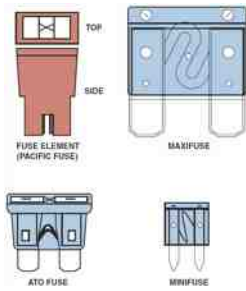
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FIGURE 10-6 A comparison of the various types of protective devices used in most vehicles.



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**FIGURE 10-7** To test a fuse, use a test light to check for power at the power side of the fuse. The ignition switch and lights may have to be on before some fuses receive power. If the fuse is good, the test light should light on both sides (power side and load side) of the fuse.




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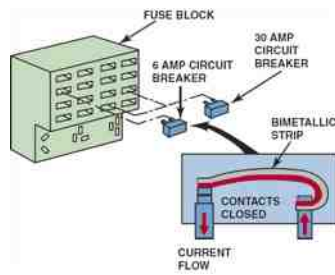
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**FIGURE 10-8** Typical blade circuit breaker fits into the same space as a blade fuse. If excessive current flows through the bimetallic strip, the strip bends and opens the contacts and stops current flow. When the circuit breaker cools, the contacts close again, completing the electrical circuit.




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**FIGURE 10-9** Electrical symbols used to represent circuit breakers.




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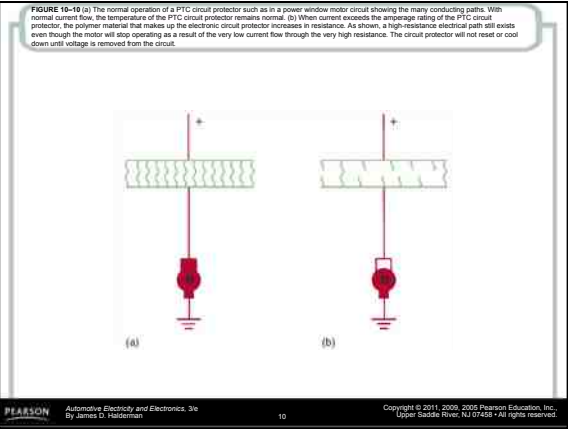
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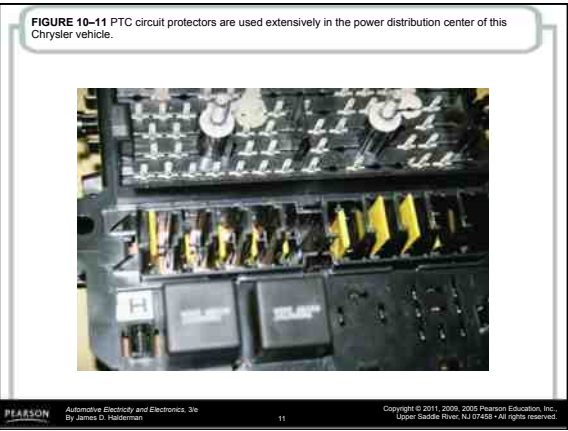
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FIGURE 10-13 A 125 ampere rated mega fuse used to control the current from the alternator.



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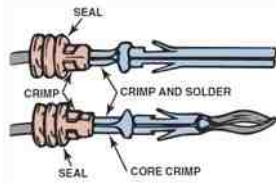
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FIGURE 10-14 Some terminals have seals attached to help seal the electrical connections.



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FIGURE 10-15 Separate a connector by opening the lock and pulling the two apart.



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**FIGURE 10-19** A butane-powered soldering tool. The cap has a built-in striker to light a converter in the tip of the tool. This handy soldering tool produces the equivalent of 60 watts of heat. It operates for about 1/2 hour on one charge from a commonly available butane refill dispenser.




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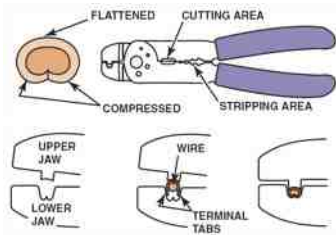
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**FIGURE 10-20** Notice that to create a good crimp the open part of the terminal is placed in the jaws of the crimping tool toward the anvil or the W-shape part.




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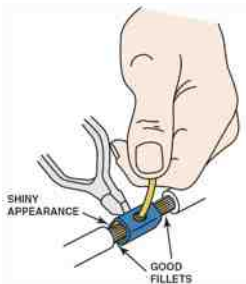
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**FIGURE 10-21** All hand-crimped splices or terminals should be soldered to be assured of a good electrical connection.




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**FIGURE 10-22** A butane torch especially designed for use on heat shrink applies heat without an open flame, which could cause damage.



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**FIGURE 10-23** A typical crimp-and-seal connector. This type of connector is first lightly crimped to retain the ends of the wires and then it is heated. The tubing shrinks around the wire splice, and thermoplastic glue melts on the inside to provide an effective weather-resistant seal.



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**FIGURE 10-24** Heating the crimp-and-seal connector melts the glue and forms an effective seal against moisture.



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**FIGURE 10-25** Conduit that has a paint strip is constructed of plastic that can withstand high underhood temperatures.



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**FIGURE 10-26** (a) Blue conduit is used to cover circuits that carry up to 42 volts. (b) Yellow conduit can also be used to cover 42 volt wiring.



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**FIGURE 10-27** Always follow the vehicle manufacturer's instructions which include the use of lineman's (high-voltage) gloves if working on circuits that are covered in orange conduit.



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