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(d) Puncture resistance test. (1) After being subjected to the test described in paragraph (d)(2) of this section, an elastomeric material that is a functional part of an edge sensor shall:

(i) Not be damaged in a manner that would adversely affect the intended operation of the edge sensor, and

(ii) Maintain enclosure integrity if it serves to reduce the likelihood of contamination of electrical contacts.

(2) A sample of the edge sensor is to be installed in the intended manner on a representative door edge. The probe described in figure 7 is to be applied with a 20 pound-force (89N) to any point on the sensor that is 3 inches or less above the floor and to be applied in the direction specified in the Edge Sensor Normal Operation Test, figure 6. The test is to be repeated on three locations on each surface of the sensor being tested.

![Figure 7: Puncture Probe](image)


§ 1211.13 Inherent force activated secondary door sensors.

(a) Normal operation test. (1) A force activated door sensor of a door system installed according to the installation instructions shall actuate when the door applies a 15 pound (66.7 N) or less force in the down or closing direction and when the door applies a 25 pound (111.2 N) or less force in the up or opening direction. For a force activated door sensor intended to be used in an operator intended for use only on a sectional door, the force is to be applied by the door against the longitudinal edge of a 1% (47.6 mm) diameter cylinder placed across the door so that the axis is perpendicular to the plane of the door. See Figure 6 of this part. The weight of the door is to be equal to the
§ 1211.14 Instruction manual.

(a) General. (1) A residential garage door operator shall be provided with an instruction manual. The instruction manual shall give complete instructions for the installation, operation, and user maintenance of the operator.

(2) Instructions that clearly detail installation and adjustment procedures required to effect proper operation of the safety means provided shall be provided with each door operator.

(3) A residential garage door or door operator shall be provided with complete and specific instructions for the correct adjustment of the control mechanism and the need for periodic checking and, if needed, adjustment of the control mechanism so as to maintain satisfactory operation of the door.

(4) The instruction manual shall include the important instructions specified in paragraphs (a)(1) and (a)(2) of this section. All required text shall be legible and contrast with the background. Upper case letters of required text shall be no less than 5/64 inch (2.0 mm) high and lower case letters shall be no less than 1/16 inch (1.6 mm) high. Heading such as “Important Installation Instructions,” “Important Safety Instructions,” “Save These Instructions” and the words “Warning—To reduce the risk of severe injury or death to persons” shall be in letters no less than 3/16 inch (4.8 mm) high.

(5) The instructions listed in paragraphs (a)(1) and (a)(2) shall be in the exact words specified or shall be in equally definitive terminology to those specified. No substitutes shall be used for the word “Warning.” The items may be numbered. The first and last items specified in paragraph (a)(2) of this section shall be first and last respectively. Other important and precautionary items considered appropriate by the manufacturer may be inserted.

(6) The instructions listed in paragraph (a)(1) of this section shall be located immediately prior to the installation instructions. The instructions listed in paragraph (a)(2) of this section shall be located immediately prior to user operation and maintenance instructions. In each case, the instructions shall be separate in format from other detailed instructions related to