**Section 435.APPENDIX B Brakes through Drive Shaft**

a) BRAKES

Every motor vehicle shall be equipped with two separate means of applying the brakes and they shall be so constructed that failure of any one part of the operating mechanism shall not leave the motor vehicle without brakes. (See Section 12-301(a) of the Illinois Vehicle Equipment Law.)

Emergency/parking brake system must apply brakes to at least two wheels. (See Section 12-301(a) of the Illinois Vehicle Equipment Law.)

AGENCY NOTE: Micro brakes are not considered a separate means of braking and are not acceptable.

Must be equipped with service brakes on all wheels. (See Section 12-301(a)(5) of the Illinois Vehicle Equipment Law.)

b) BUMPER, FRONT

Manufacturer's standards are acceptable. Black color is not required.

The entire front bumper must be of metal construction unless an energy absorbing bumper is used.

c) BUMPER, REAR

The rear bumper shall be channel-type cross section with the top edge at least 8.86 inches (22.5 cm) above the bottom edge. The bumper shall be formed from rolled steel at least .18 inch (.455 cm) thick, and shall wrap around the rear corners of the body to a point at least 11.8 inches (30 cm) forward of the rearmost point of the body at floor line. The rear bumper shall be attached to the chassis frame with provisions for removal by means of commonly available hand tools and the prevention of hitching to or riding on. The rear bumper shall be of sufficient strength to permit the MFSAB being pushed by another vehicle without permanent distortion.

d) CHILD CHECK SYSTEM

If a mechanical or electronic child check system is installed, the system shall require that, when the driver turns off the vehicle's ignition system, the vehicle's interior lights must illuminate to assist the driver. (See Section 12-816 of the Illinois Vehicle Equipment Law.)

AGENCY NOTE: A manual child check system may be utilized by the MFSAB owner.

e) COMMUNICATION DEVICE

AGENCY NOTE: A communication device is required on each MFSAB while the driver is in possession of the MFSAB. The manufacturer may elect to install a two way radio at the time the MFSAB is manufactured; however, a communication device (i.e., two way radio or cellular radio telecommunication device) can also be installed by the owner after the MFSAB is purchased.

An MFSAB must contain either a cellular radio telecommunication device (i.e., cell phone) or an operating two-way radio while the MFSAB driver is in possession of the vehicle.

f) CROSSING CONTROL ARM

The crossing arm must meet the following:

1) Must be wired to the opening and closing of the service entrance door.

2) Must be capable of full operation between, and including, the temperatures -40° F and 160° F.

3) The arm, when activated, must extend a minimum of five feet from the front face of the bumper.

4) The arm must be mounted on the far right side (entry side) of the front bumper.

5) Appropriate brackets shall be used to attach the arm to the front bumper for proper operation and storage. The arm must stay at the same level as the front bumper and must not "dip" below the front bumper.

6) All component parts must meet or exceed any applicable federal motor vehicle safety standards in effect at the time of manufacture.

7) The arm must extend at the same time the service door opens. An independent "on/off" switch is prohibited.

8) If the driver can stop the arm from extending with the use of an optional override switch, the arm sequence must automatically reset once the service door is closed.

9) Red lights and/or red reflectors are prohibited.

g) DASH

The dash area below the windshield must be free of all obstructions. This includes, but is not limited to, two-way radios, GPS systems, pencil holders, decorations, or any other obstacle that may obstruct a school bus driver's field of view.

h) DRIVE SHAFT GUARD

A suitable guard shall be provided for each segment of the drive shaft to prevent accident or injury if the shaft breaks or becomes disconnected.

(Source: Amended at 37 Ill. Reg. 6791, effective May 3, 2013)