**Section 435.APPENDIX E Grab Handles through Insulation**

a) GRAB HANDLES

1) Exterior

Not required.

2) Interior

Stainless steel clad, solidly attached on the left side of the entranceway as a person enters the bus, and as long as practicable. An optional grab handle can also be located on the right side of the entranceway.

b) HEATERS

An interior temperature of not less than 10° Celsius (50° F) shall be maintained throughout the bus while the bus is moving at 75 kilometers per hour (46.6 miles per hour) in calm air at the average minimum January temperature, as established by the Weather Bureau, U.S. Department of Commerce, for the area in which the bus is to be operated.

Each heater shall bear a nameplate that shall identify the heater manufacturer and state the heater capacity rating when tested as recommended in SAE Recommended Practice J638 (November 1998), or when tested in accordance with other nationally recognized standard or code. The recommended practice, standard, or code under which the heater is rated shall be identified on the nameplate. The nameplate shall constitute certification by the heater manufacturer that the heater performance is as shown on the plate.

Heater hoses shall be supported so as to prevent wear due to vibration. The hoses shall not dangle or rub against the chassis or sharp edges and shall neither interfere with nor restrict the operation of any engine function (such as an emission or ignition control mechanism). Heater hoses shall be protected or baffled between the point at which they enter the passenger compartment and the point of attachment to the heater so that, in the event of hose rupture or disconnection, passengers and/or driver will not be subject to hot water burns.

Auxiliary fuel-fired heating systems are permitted, provided they comply with the following:

1) The auxiliary heating system fuel shall utilize the same type of fuel as specified for the vehicle engine;

2) The heater or heaters may be direct hot air or connected to the engine's coolant system;

3) An auxiliary heating system, when connected to the engine's coolant system, may be used to preheat the engine coolant or preheat and add supplementary heat to the bus heating system;

4) Auxiliary heating systems must be installed pursuant to the manufacturer's recommendations and shall not direct exhaust in a manner that will endanger bus passengers;

5) Auxiliary heating systems that operate on diesel fuel shall be capable of operating on:

A) a hot water and/or combustion type heater; or

B) if only one heater is used, a fresh-air or combination fresh-air and recirculation type heater; or

C) blended diesel fuel without the need for system adjustment; and

6) The auxiliary heating system shall be low voltage.

c) HORN

At least one horn shall be provided giving an audible warning at a distance of 200 feet and shall be conveniently controlled from the operator's seated position. (See Section 12-601 of the Illinois Vehicle Equipment Law.)

Optional exterior air horn is permitted.

d) INSTRUMENTS AND INSTRUMENT PANEL

Shall be equipped with the following nonglare illuminated instruments and gauges mounted for easy maintenance and repair and in such a manner that each is clearly visible to the seated driver. An indicator light instead of a pressure or temperature gauge is permissible.

1) Speedometer;

2) Odometer;

3) Fuel gauge;

4) Oil pressure gauge;

5) Water temperature gauge;

6) Ampere meter or volt meter with graduated charge and discharge indications;

7) High beam headlight indicator;

8) Directional signal indicator;

9) Air pressure or vacuum gauge (when air or vacuum brakes are used);

10) Emergency/service brake indicator (includes anti-lock brake system (ABS)).

e) INSULATION

The ceiling and sidewalls shall be thermally insulated with a fire-resistant material that shall reduce the noise level and vibrations.