



®

LIFT-U[®], DIVISION OF HOGAN MFG., INC.

Loading System

An automatically-controlled, power-operated ramp system compliant to requirements defined in 49 CFR Part 38, Subpart B, §38.23c, such as the LIFT-U Dual-Mode Ramp Model LU18, shall provide ingress and egress quickly, safely, and comfortably, both in forward and rearward directions, for a passenger in a wheelchair from a level street or curb. The ramp shall be a fold out design and located at the (Front or Rear) door.

When the system is not in use, the passageway shall appear normal. In the stored position of the ramp, no tripping hazards shall be presented and any resulting gaps shall be minimized. In the deployed position, the ramp's interior surface adjacent the aisle shall translate upward to provide a level boarding surface, creating an easier passenger transition to/from the bus aisle. Ramp width shall be a minimum of 30 inches. The ramp slope, when measured at a 6-inch curb shall be a maximum of 1:8, while maintaining a level entrance into the bus; and when deployed to street level a portion of the interior floor shall automatically lower on an incline without operator involvement, transforming the ramp to a maximum 1:6 slope. The portion of the ramp extending outside the bus shall be no greater than 48-inches. The ramp shall have a rated capacity of at least 1,000 lbs.

The controls shall be simple to operate requiring only two switches: a power "on" switch with an indicator lamp and a three position spring-loaded momentary switch for "stow" and "deploy"; with no complex phasing operations required, and the loading system operation shall be under the surveillance and complete control of the operator. If the loading system and controls are at the rear doors, a switch shall be provided in the operator's area to disable the loading system. The bus shall be prevented from moving during the loading or unloading cycle by a throttle and brake interlock system. The wheelchair loading system shall not present a hazard, nor inconvenience any passenger. The loading system shall be inhibited from retracting or folding when a passenger is on the ramp/platform.

A passenger departing or boarding via the ramp shall be able to easily obtain support by grasping the passenger assist located on the doors or other assists provided for this purpose. The platform shall be designed to protect the ramp from damage and persons on the sidewalk from injury during the

extension/retraction or lowering/raising phases of operation. Accordingly, the ramp shall include object detection, so that during powered deployment or storage, should the ramp encounter an obstruction, the drive

mechanism is disabled and all ramp motion stops. Releasing the operator switch shall automatically reset ramp functionality. Also during powered deployment the ramp shall decelerate before it contacts the sidewalk or roadway. The loading platform shall be covered with replaceable or renewable nonskid material, and shall be fitted with devices to prevent the wheelchair from rolling off the sides during loading or unloading.

Deployment or storage of the ramp shall require no more than 15 seconds. The ramp shall be electrically powered and operated, and require no hydraulics. The ramp control module shall be packaged in a sealed enclosure and must withstand being submerged under water. The device shall function without failure or adjustment for 500 cycles or 5,000 miles in all weather conditions on the design operating profile when activated once during the idle phase. For corrosion resistance, all major ramp components including the ramp plate shall be manufactured from stainless steel. Aluminum shall not be used to avoid galvanic corrosion.

A manual override system shall permit unloading a wheelchair and storing the device in the event of a primary power failure. The manual operation of the ramp shall not require more than 20 lbs. of force by utilizing a coil-spring counterbalance system. During powered operation, if the operator removes pressure from the control switches, or if during manual operation the operator physically releases the ramp platform, the ramp shall not be allowed to "free-fall" to prevent potential injury to passengers or persons on the sidewalk.

The ramp shall be a self-contained unit, having all drive system components located within the interior of the ramp assembly and shall include easy access from the interior of the vehicle to facilitate service. The ramp assembly shall be replaceable within 30 minutes by a 3M mechanic.