SURE-LOK®
Safe and Secure

Aluminum L Track Installation General Information

The proper design of an installation of aluminum L track into a vehicle structure for use in wheelchair securement and occupant restraint requires careful consideration of several key elements:

1. The proper location of L track elements within the securement area as outlined in the Sure-Lok catalog.

2. Plan for routing of floorboards and trimming of floor coverings as required.

3. Selection of suitable fasteners and spacing as described in the Sure-Lok catalog. We recommend high-strength, plated fasteners per ASTM F835 or equal. Sure-Lok offers 1/4" x 3" and 5/16" x 3" special high strength fasteners with enhanced corrosion resistance compared to zinc plated bolts and a special coating under the heads to seal out moisture and insulate electrically. These come in kit form with high strength lock nuts and FMVSS 209 compliant backup washers. Ask for part numbers FE201005 and FE201006 respectively.

4. Selection of appropriate backing washers or backing plates as needed depending on details of floor structure and required vehicle regulations.

5. Consideration of the corrosion potential of surrounding elements and the long term effect of exposure to anticipated environmental influences. In addition, with any aluminum assembly, great care must be taken to avoid galvanic corrosion that is set up by dissimilar materials or other sources of galvanic potential in the installation.

In order to assist our customers with a successful installation, we provide the following information regarding potential corrosion problems and suggested solutions.

Environmental Corrosion: To avoid corrosion from atmospheric contaminates and solutions of salts,which are commonly found in floor areas of public transportation vehicles, a surface protection should be added to the aluminum L track. There is a range of suitable protection that can be applied. Anodizing and/or powder coating or epoxy paint are systems that have been used successfully.

Galvanic Corrosion: To avoid galvanic corrosion, a careful review of the materials used in the installation must be done. Stainless steel fasteners or other stainless steel elements in the installation will set up a significant galvanic potential that will result in destructive degradation of the aluminum material of the L track. Other materials or conditions may also provide a destructive galvanic potential in an installation. These must be eliminated or adequately electrically insulated.

Floorboard Corrosion: There are some chemicals, which are present in common materials used in construction of public transport vehicle floors that can be corrosive to aluminum. Exterior grade or Marine grade plywood contains copper arsenic, among other chemicals, to preserve the wood. This chemical is very corrosive to aluminum and an adequate barrier must be provided between the floor boards and the track. Application of a suitable paint and/or plastic film barrier has been used successfully to separate the aluminum track from the corrosive elements of the floor board material.

Chemical Corrosion: Other chemicals or corrosive solutions may be carried into the vehicle during operation and exposed to the aluminum L track. In order to minimize corrosion from this potential, the track should be cleaned periodically by the operator. The cleaning operation needs to include adequate drying by vacuuming or equivalent after the cleaning process.

Moisture Traps: Gaps between the track and the flooring materials or between the fastener head and the track, that can allow water to become trapped in these areas, should be caulked or otherwise filled to preclude the entrance of water. Trapped moisture will accelerate the potential for corrosion that may exist and must be avoided.

Although we have attempted to be as thorough as possible, there is always the possibility of unknown or unforeseen corrosion potential that may come into effect in a given installation. Because of this, it must remain the responsibility of the company or group doing the design of the installation as to the acceptability of the final result.

Safety Information

Each Sure-Lok Wheelchair Tie-Down and Occupant Restraint System installation shall be carefully reviewed and tested by the installer to ensure that the specific application is in compliance with local, state and federal regulations governing the installation of Wheelchair Securement and Occupant Restraint Systems.

Sure-Lok Systems shall be installed with the approval of the vehicle and/or seat manufacturer, or an authorized representative, in regards to the location, load forces expected, and method of installation. Sure-Lok Systems shall be installed in accordance with all applicable Federal Motor Vehicle Safety Standards (FMVSS), as amended.

The vehicle floor and sidewall structures, where the system anchorages are attached, shall have equal or greater strength than the system being installed.

All Sure-Lok Wheelchair Tie-Down Systems shall be used in conjunction with Sure-Lok Occupant Restraint Systems and Track, Floor Plates or Anchoring Hardware.

All Sure-Lok Systems shall be installed and operated with the occupant in a forward-facing orientation within the vehicle.

The installation and operation of the system shall be reviewed and approved by a qualified person that has expertise in securing mobility aids and positioning occupant restraints.

All Sure-Lok Wheelchair Tie-Down and Occupant Restraint Systems, when used as recommended, meet or exceed all applicable industry and government requirements for use with common wheelchairs. Not all wheelchairs are endorsed by their manufacturer for use as an occupant seat during the transportation of an individual in a motor vehicle. Refer to the wheelchair owner's manual or contact the wheelchair manufacturer for their recommendation.

Sure-Lok Occupant Restraint Lap Belts are designed to bear upon the bony structure of the body and shall be worn low and snug across the front of the pelvis, with the junction between the lap and shoulder belts located near the wearer's hip. The lap belt shall not be worn across the abdominal area, over the mobility aid arm rests, or with the belt assembly twisted. Adjust occupant restraints as firmly as possible consistent with user comfort.

The shoulder belt shall be properly extended over the shoulder and across the upper chest or torso of the occupant when connecting it to the lap belt. The shoulder belt shall not be extended across the neck of the occupant.

Any auxiliary wheelchair equipment should be effectively secured to the wheelchair or removed from the wheelchair and secured in the vehicle during transport so as not to break free and cause injury to vehicle occupants. Also, where ever possible, items attached to the wheelchair in front of the occupant restraint should be removed and secured separately during transportation to prevent potential injury to the wheelchair occupant.

When installing the strap and belt assemblies, keep them away from sharp edges or corners.

The securement straps and restraint belts shall be inspected before each use. Any defects, such as cut, frayed, contaminated or damaged webbing, improperly functioning buckles/hardware, and broken/worn parts requires the replacement of the entire strap or belt assembly.

Sure-Lok does not recommend making alterations of, or substitutions to, any parts or components of the Wheelchair Securement or Occupant Restraint Systems.

Any system components, including anchorages, which are suspected to have been in use during an impact from which the vehicle must be towed, should be replaced.

Environmental conditions such as dirt, mud, oil, sand, solvents, grease, saltwater or excessive sunlight, will reduce the service life and proper functioning of the system. Prevent contamination of webbing from chemicals, especially battery acid. Strap and belt webbing may be cleaned with mild soap and water. Rinse fully and dry completely. Care must be taken to keep the straps and belts off the vehicle floor and stored away from direct exposure to sunlight in a clean container when not in use.

For information regarding proper system operation, refer to the operation instructions included with each system.

Mechanical components such as cam or ratchet buckles should be periodically lubricated at all moving metal-to-metal joints.

Any deviation from Sure-Lok's recommendations in regard to system configuration, installation and operation instructions shall be the responsibility of the installer.

This information is not all inclusive and will not cover or represent every installation.

For further information, refer to the our website at www.sure-lok.com or contact us at the location listed below.

For further information contact

Sure-Lok Inc.
2501 Baglyos Circle
Bethlehem, PA 18020-8027

Phone: (610) 814-0300
Fax: (610) 814-0644
e-mail: info@sure-lok.com

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