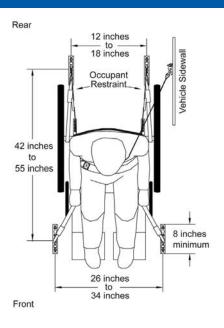
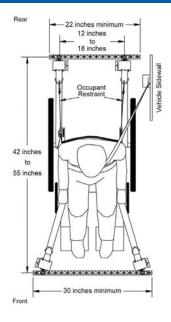
# **FLOOR ANCHOR SYSTEM APPLICATIONS**

Sure-Lok recommends the following for floor anchor system layout and installation. These recommendations are not all-inclusive and may not be applicable to every system installation. For additional information regarding installation of track and corrosion potential of aluminum L Track, refer to our website at **www.sure-lok.com**.

Except as noted, the recommended installations on the following pages, when properly done, will comply with 49 CFR Part 571.222 (FMVSS 222) for School Bus Passenger Seating, Crash Protection and 30mph/20g Impact Test Criteria. Each Wheelchair Tie-Down and Occupant Restraint System must be carefully reviewed and approved by the installer to ensure installation meets applicable industry standards. Refer to applicable ADA, CSA, FMVSS, ISO, SAE and vehicle manufacturers' standards for additional information.

# L TRACK APPLICATIONS





### **Series L Track Lengthwise Orientation**

#### Recommended Installation:

For lengthwise installation, use a minimum of four fasteners or fasteners at 4" intervals, whichever provides the greater number of fasteners.

Use flat head socket screws per ASTM F835 or equivalent. Minimum size is 5/16" (8mm).

Sure-Lok offers special cap screws to minimize corrosion potential. Series L Track Installation Hardware Kit, part number FE201006 includes 5/16" diameter 82° countersunk fasteners. For more information on Series L Track Installation Hardware Kit, refer to page 28.

The FE200762 and FE200765 are installed lengthwise with 3/8" grade 5 hex head bolts on 8" centers.

Use appropriate back-up washers as needed to comply with local and/or Federal requirements.

#### Series L Track Widthwise Orientation

#### Recommended Installation:

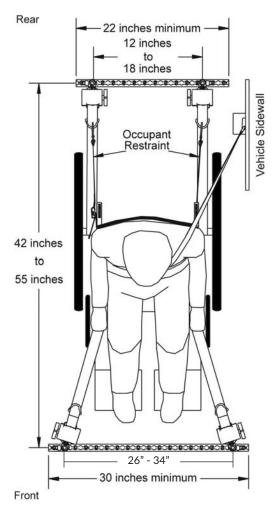
For widthwise installation, use a minimum of four fasteners or fasteners at 4" intervals, whichever provides the greater number of fasteners.

Use flat head socket screws per ASTM F835 or equivalent. Minimum size is 5/16" (8mm).

Sure-Lok offers special cap screws to minimize corrosion potential. Series L Track Installation Hardware Kit, part number FE201006 includes 5/16" diameter 82° countersunk fasteners. For more information on Series L Track Installation Hardware Kit, refer to page 28.

The FE200762 and FE200765 installed widthwise meets ADA strength requirements when used with 3/8" grade 5 hex head bolts on 8" centers. This application does not meet 30mph/20g Impact Test Criteria.

Use appropriate back-up washers as needed to comply with local and/or Federal requirements.

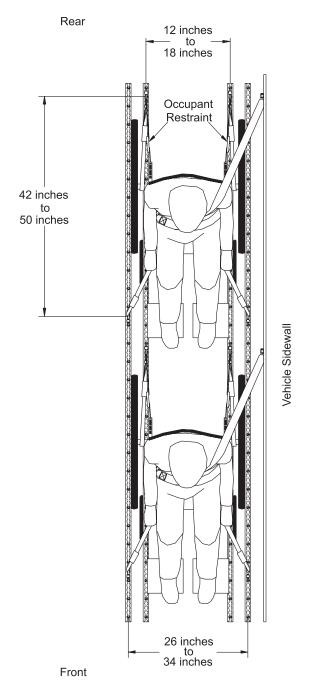


#### **Series L Floor Plate Kits**

Recommended Installation:

Sure-Lok Series L Floor Plate Kits come with installation hardware included. Each kit also comes with complete installation instructions.

For Integrated Lap Belt, only two floor plates are needed at the rear.



## **Series L Track Multiple Positions**

Recommended Installation:

Refer to recommended installation for lengthwise Series L Track on Page 32.



The Sure-Lok products that you select must be suitable for your particular application. Installation of products that are not suitable or are installed in an unsuitable manner may result in a failure of proper securement of the wheelchair and occupant. This failure can result in injury or death to the occupant, other passengers or driver and wheelchair damage.



The vehicle floor and sidewall structures, where the system anchorages are attached, must have sufficient strength to meet applicable federal government and recommended industry standards.

## **OMNI L-TRACK INSTALLATION GENERAL INFORMATION**



This guide is provided to assist with the installation of OMNI track. If you have any questions or problems relating to your installation, please contact your nearest Q'Straint or Sure-Lok of office. Please note the following:

- 1. The proper location of L track elements, within the securement area, is outlined in Fig. 1 (lengthwise) and Fig. 2 (widthwise).
- 2. Plan for routing of floorboards and trimming of floor coverings as required. It is recommended to use track as a template to mark center holes to be drilled.
- 3. Q'Straint and Sure-Lok recommend high-strength, plated fasteners per ASTM F835 or equal. It is recommended to use 5/16" or 8mm fasteners. Q'Straint and Sure-Lok offer 5/16" x 3" special high-strength fasteners with enhanced corrosion resistance as compared to standard zinc-plated bolts. Our fasteners have 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 number FE201006. Recommended torque for fasteners is 25 FT-LBS (34 Nm). Ensure that a minimum of 2 threads protrude beyond the nut.
- 4. Select appropriate backing washers or backing plates as needed depending on the specific style of the vehicle's floor structure and required vehicle regulations.
- 5. Consider 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 triggered by dissimilar materials or other sources of galvanic potential in the installation.
- 6. Inspect the underside of the vehicle floor and note utilities, frames, cross-members, fuel tanks or other possible obstructions before beginning 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:** For optimal corrosion protection 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.

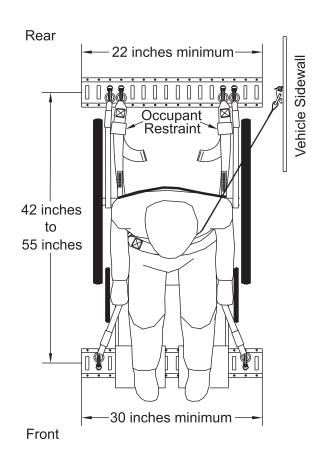
**Floorboard Corrosion:** There are some chemicals, which are present in common materials used in construction of public transportation vehicle floors that can be corrosive to aluminum. Exterior grade or marine grade plywood contains copper arsenic, among other chemicals, to preserve the wood. This chemical is very corrosive to aluminum and an adequate barrier must be provided between the floorboards 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 floorboard material.

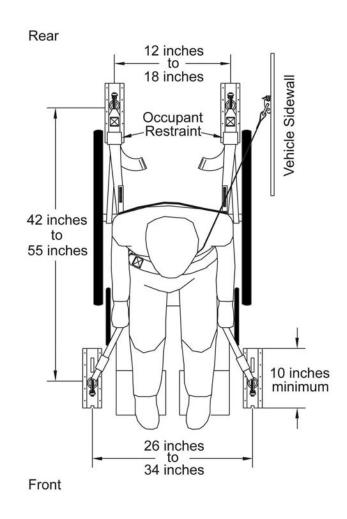
**Chemical Corrosion:** Other chemicals or corrosive solutions may be carried into the vehicle during operation and exposed to the aluminum L track. In order to minimize corrosion from this potential, the track should be cleaned periodically by the operator. The cleaning operation needs to include adequate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

**Moisture Traps:** Gaps between the track and the flooring materials, between the fastener head and the track, or between the backing plate and the floor, 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 have 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.

# **A TRACK APPLICATIONS**





# Heavy-Duty Series A Horizontal Track Widthwise Orientation

#### Recommended Installation for all Series A Track:

For widthwise installation, use a minimum of four fasteners or fasteners at 4" intervals on each side of the track, whichever provides the greater number of fasteners.

Use grade 5 or equivalent fasteners of 1/4" minimum size.

Use appropriate back-up washers as needed to comply with local and/or Federal requirements.

### Heavy-Duty Series A Vertical Track Lengthwise Orientation

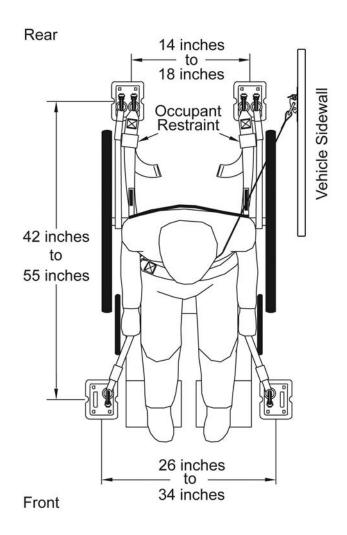
#### Recommended Installation for all Series A Track:

For lengthwise installation, use a minimum of four fasteners or fasteners at 4" intervals on each side of the track, whichever provides the greater number of fasteners.

Use grade 5 or equivalent fasteners of 1/4" minimum size.

Use appropriate back-up washers as needed to comply with local and/or Federal requirements.

# **A TRACK APPLICATIONS**

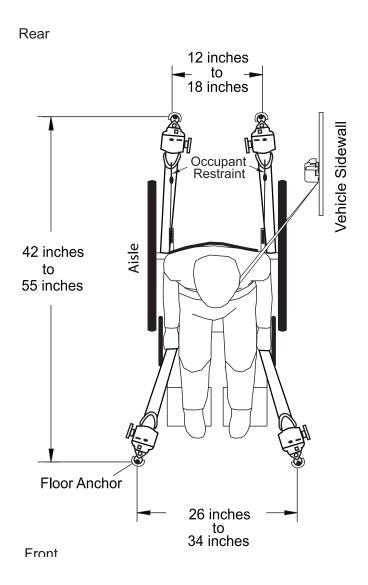


### **Heavy-Duty Series A Floor Plate Kit**

### Recommended Installation:

Sure-Lok Series A Floor Plate Kit comes with installation hardware included. Each kit also comes with complete installation instructions.

# **SNC APPLICATIONS**



## **SNC Floor Anchor Fitting**

### Recommended Installation:

Sure-Lok SNC Floor Anchor Fitting comes with the Anchor Backing Plate Lock Washer and Nut. Each kit comes with complete installation instructions.