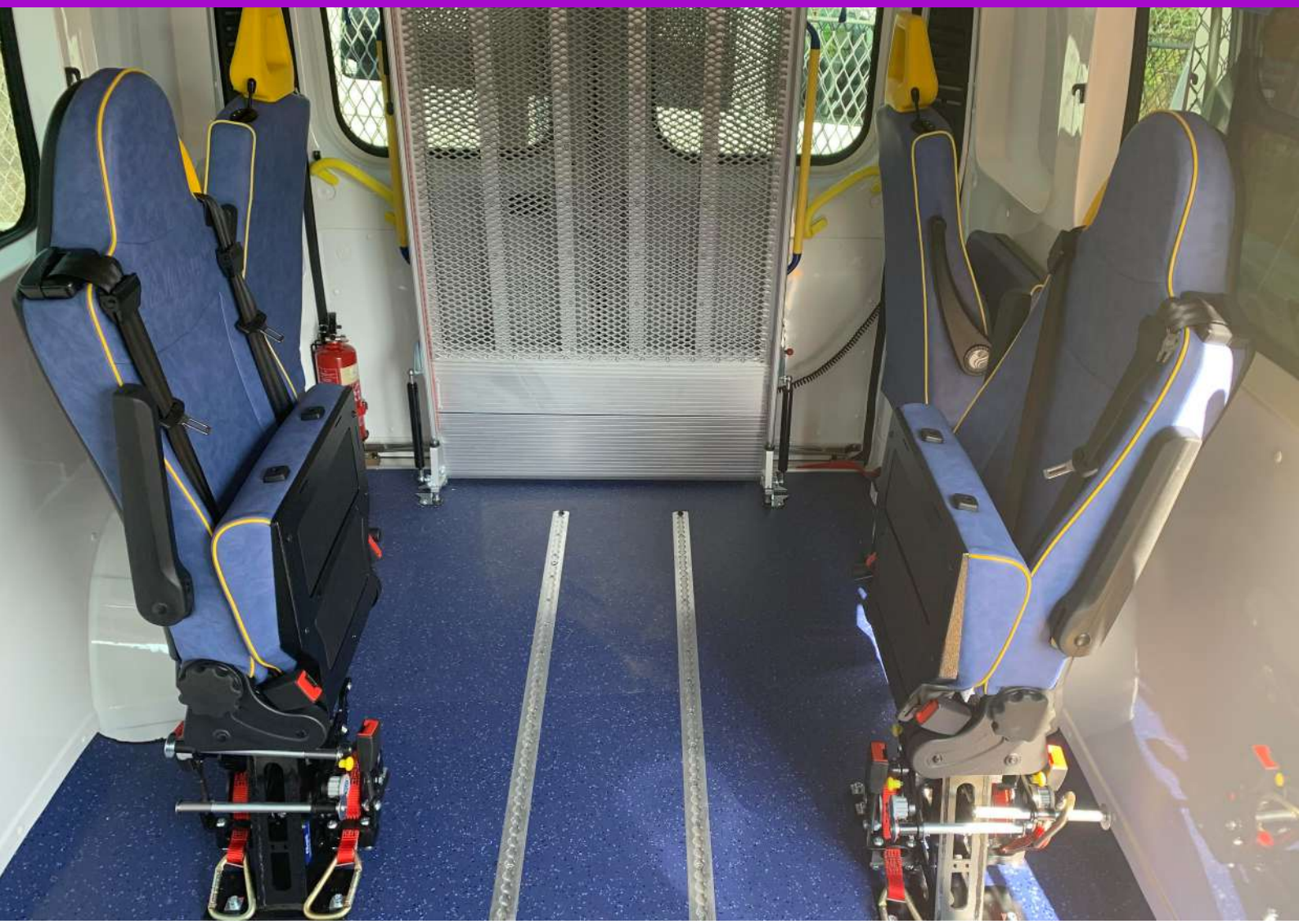


Product Pack

RIPS | Rear Impact Protection Seats

nmi Safety Systems

Helping more people to travel in safety and comfort

RIPS | Rear Impact Protection Seats

In Vehicle Wheelchair Docking Seats

We are the world leader in the manufacture of a range of patented dual purpose seats that can be used by able bodied passengers and are also wheelchair docking stations that provide unparalleled levels of safety to wheelchair passengers. Rear Impact Protection Seats (RIPS) provide tested back and headrest support for wheelchair users travelling in vehicles.

In May 2003, the Department for Transport published a report following an extensive programme of testing to assess the safety of wheelchair users when being transported on all M category vehicles in comparison with travellers seated in conventional seats (fitted with headrests).

The work found that the heads and necks of wheelchair users were particularly vulnerable but that this could be addressed through the use of a head and back restraint. However, such a restraint should meet the requirements of ECE regulation 17 for strength and energy absorption and the wheelchair should fit well up against the head and back restraint for maximum benefit.

The addition of a head and back restraint was found to improve the situation significantly. And so, to comply with wheelchair passenger vehicle safety findings as outlined, NMI has designed and patented a comprehensive range of Rear Impact Protection Seats (RIPS)

RIPS +

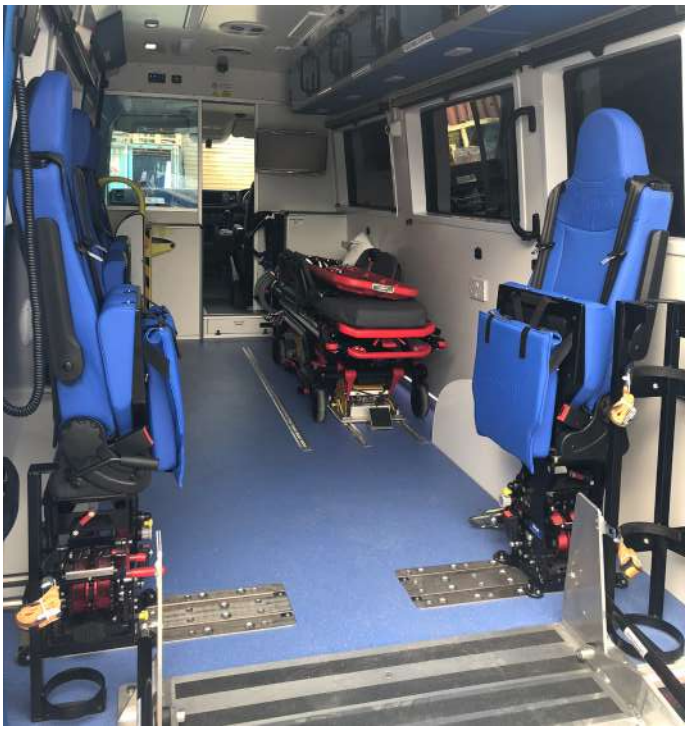
The newest NMI rear impact protection seat – the RIPS + is our lightest and most versatile product yet.
RIPS + is offered in two variants: on a fixed base - fixed, or fitted with NMI V lockables to slide, lock, unlock or remove from floor tracking. (For V lockables information please see our Seat Fittings product pack.)

RIPS + can be fitted into all vehicle types (minibus, coach built, low floor or ambulance) and is extremely simple for user operation.
RIPS+ with V lockables can be produced to fit any track centres between 177mm and 255mm.

Produced in our most compact design allowing more space in the vehicle than ever before.
Its patented lightweight features however do not mean that there is any compromise on the wheelchair or occupant carrying weight.

Rotating King RIPS (RKR) MK3

NMI's flagship RIPS, the RKR is the perfect solution for maintaining seating capacity and transporting wheelchairs in limited space. Used exhaustively in Patient Transfer Services type ambulances the RKR provides operators with a reliable product and is the most space saving of the RIPS range.

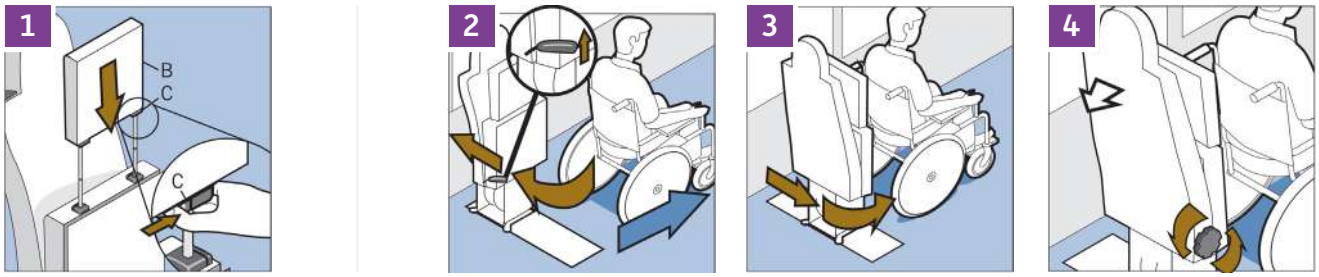


The RKR is fitted to a plate which allows it to slide from left to right.

This gives the RKR the unique feature of sitting as close as possible to the vehicle wall when it is swivelled sideways on.

This patented design feature is of particular importance in stretcher carrying ambulances as it allows ample room for the wheelchair user to pass between the stretcher and RKR when rotated against the wall.

Turning Seat Into Wheelchair User Mode



Setting up seat back for wheelchair user mode

1 – Tip up seat cushion squab and connect headrest pad ready for wheelchair user.

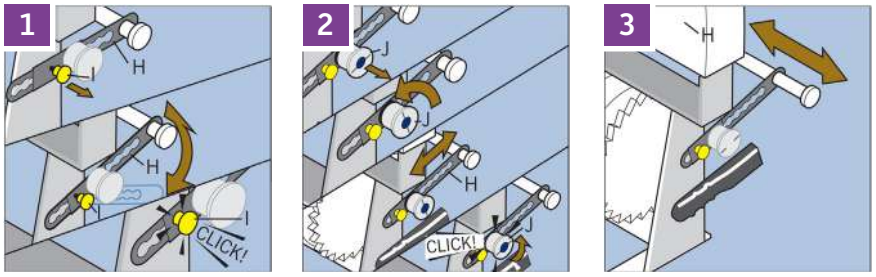
Locking / unlocking and operating RIPS+

2 – To rotate: Lift handle at side of seat and turn the seat 90°. The wheelchair user can now pass.

3 – Now rotate the seat to align with the back of the wheelchair.

4 – To recline: The seat back can be reclined if needed by rotating the wheel at the side of the seat.

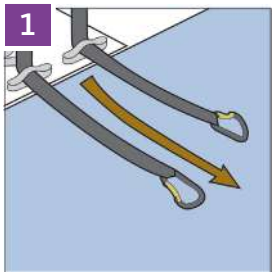
Locking / unlocking and operating RIPS+

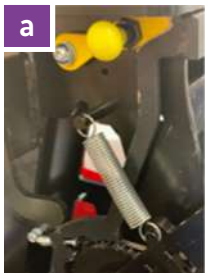


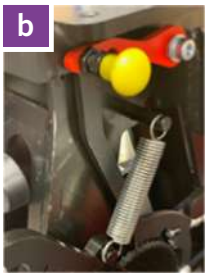
1 – To adjust the flexi beam **H** to angle up or down to receive the wheelchair pull plunger **I**. While holding plunger **I** raise and lower **H** to your preferred angle then let go of **I**. **I** should snap in to lock the angle. You might have to alter the angle of the beam to the closest point **I** will snap in. Repeat on the other side of seat base.

2 – To alter the length of flexi beam **H** pull out plunger **J** and rotate 90°. Slide beam **H** to your required length then turn back **J** so the marks line up with the length of the beam. **J** should click back into place to lock, if it does not adjust the length of **H** slightly till it does. Repeat on the other side of seat base.

3 – The flexi beam bars can be slid to the appropriate position to meet the wheelchair frame. Repeat on other side.







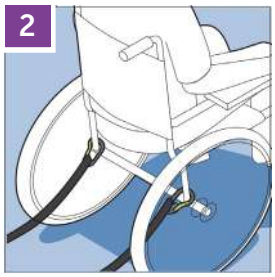
Important!

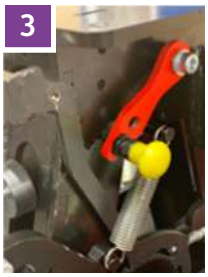
There are two safety locks at the top of the base. As you look from behind: Yellow lock on the left hand side. Red lock on the right hand side.

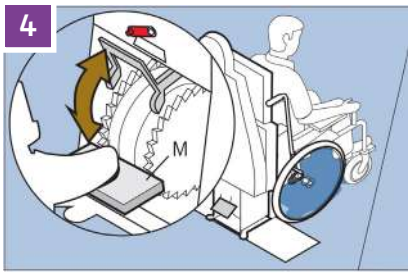
1 – In order to release and then pull the webbing out to their fullest extents from the front of the seat base you must follow 2 steps:

a – Lift the yellow lock upwards to its highest point and allow the plunger to locate in the hole.

b – Then push forward the plate in the middle of the base as far forward as it goes and hold it. Then lift up the red lock and locate the yellow plunger in the hole. The ratchet is now disconnected. Pull out the red webbing belts.







Caution!

Under no circumstances attach karabiners to the front of the wheelchair.

2 – Attach the karabiners to the rear of wheelchair frame as low as possible on manufacturer's recommended points.

3 – **Important:** Pull yellow plunger on red lock and drop down. The ratchet is now re-connected.

4 – Operate large pedal **M** in an up and down motion to ratchet in the wheelchair until the wheelchair is a snug fit against the seat back and against the flexi beams. It is advisable to use the wheelchair handles during this process to guide the wheelchair as it reverses.

5 – Drop yellow latch down to sit against the plate assembly. This will prevent accidental release of the ratchet.

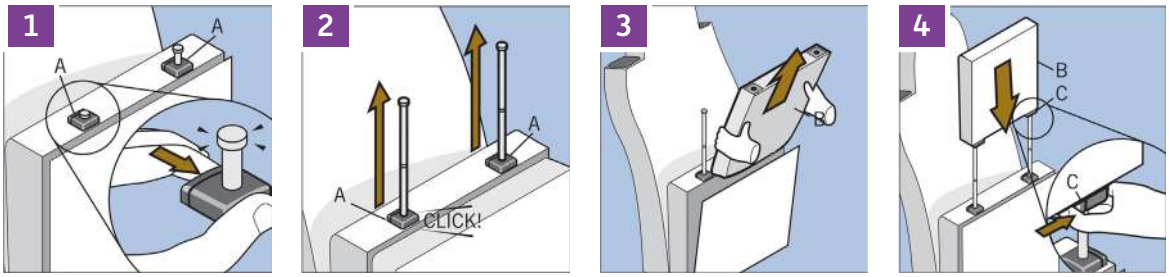
6 – **Caution: There must be no forward or backward movement of the wheelchair once it has been secured.**

7 – Secure the passenger using the two all age inertia belts. Take one belt and insert it into the buckle. Repeat using the other all age inertia belt and fixing it into the buckle on the other side of the seat.

8 – Position the age adjuster **N** (on both adjuster belts) to ensure webbing does not cut across the occupants neck.

Turning Seat Into Wheelchair User Mode

Setting up the seat back for wheelchair user mode



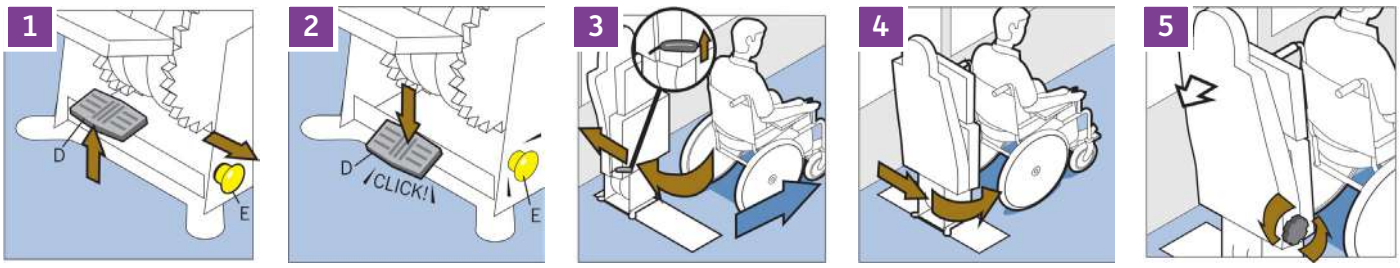
1 – Squeeze **A** to get the extension stalks to pop up.

2 – Keep squeezing **A** and slowly pull stalks up until they click into the second groove and stay in position.

3 – Remove extension cushion **B** from elastic pouch.

4 – Align the holes in the bottom of **B** with the stalks, squeeze **C** located on one side to pop onto the stalks and push down cushion **B** into position.

New features to lock/unlock and operate seat RKR base



1 – **To unlock:** Pull **E** and hold, then lift up pedal **D**. You may need to apply downward pressure on **D** to release plunger **E**. The unit is now unlocked for sliding.

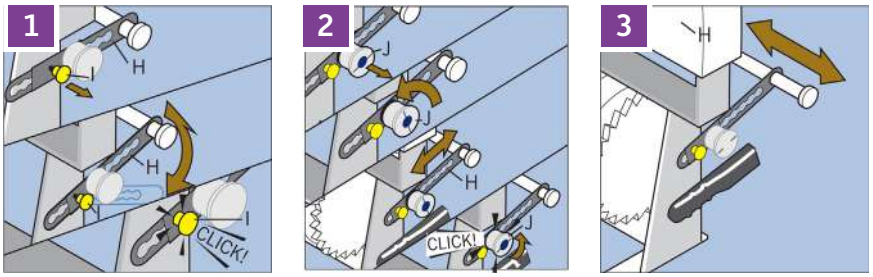
2 – **To lock:** Push down pedal **D** with your foot to lock the unit. At the same time yellow plunger **E** will lock into a fixed hole position. This acts as a safety lock.

3 – **To rotate:** The base no longer folds. Instead the seat rotates about the base. Lift handle at side of seat and turn the seat 90°. Then slide the seat base to the side. The wheelchair user can now pass.

4 – Slide and rotate the seat to align with the back of the wheelchair. Lock in position with the foot pedal.

5 – **To recline:** The seat back can be reclined if needed by rotating the wheel at the side of the seat.

Preparing the flexi beam to meet the wheelchair

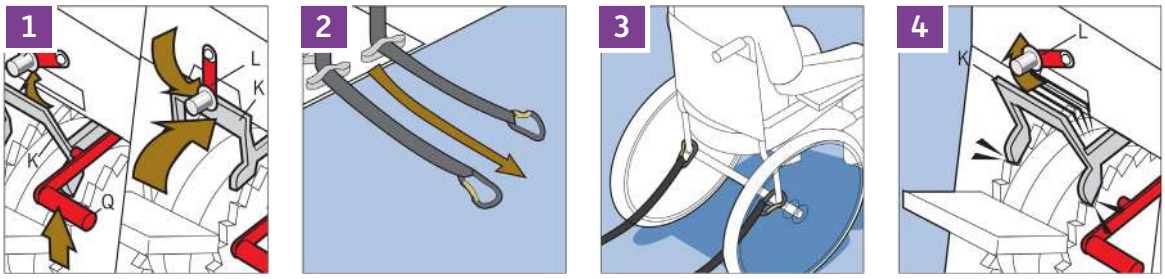


1 – To adjust the flexi beam **H** to angle up or down to receive the wheelchair pull plunger **I**. While holding plunger **I** raise and lower **H** to your preferred angle then let go of **I**. **I** should snap in to lock the angle. You may have to alter the angle of the beam to the closest point **I** will snap in. Repeat on the other side of seat base.

2 – To alter the length of flexi beam **H** pull out plunger **J** and rotate 90°. Slide beam **H** to your required length then turn back **J** so the marks line up with the length of the beam. **J** should click back into place to lock, if it does not adjust the length of **H** slightly till it does. Repeat on the other side of seat base.

3 – The flexi beam bars can be slid to the appropriate position to meet the wheelchair frame. Repeat on the other side of the seat.

Securing the wheelchair and user



1 – To release the webbing sing **L** from behind **K**. Next lift up red handle **Q** which will lift up connector bar **K**. Then push **K** forward and hold in position by rotating **L** down.

2 – Pull the webbing out to their fullest extents from the front of the seat base.

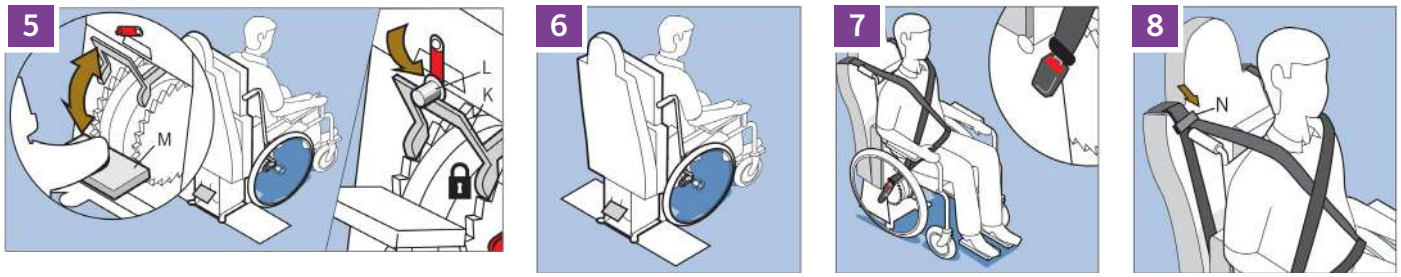
3 – Attach karabiners to the rear of the wheelchair frame as low as possible on manufacturer's recommended points.

4 – Engage webbing by rotating **L** upward to release **K**. Make sure **K**'s dogs are engaged on the frum teeth.

Caution!

Under no circumstances attach karabiners to the front of the wheelchair.

Continued on next page ...



5 – Operate large pedal **M** in an up and down motion to ratchet in the wheelchair until the wheelchair is a snug fit against the seat back and against the flexi beams. It is advisable to use the wheelchair handles during this process to guide the wheelchair as it reverses. Finally swing safety catch **L** behind **K**.

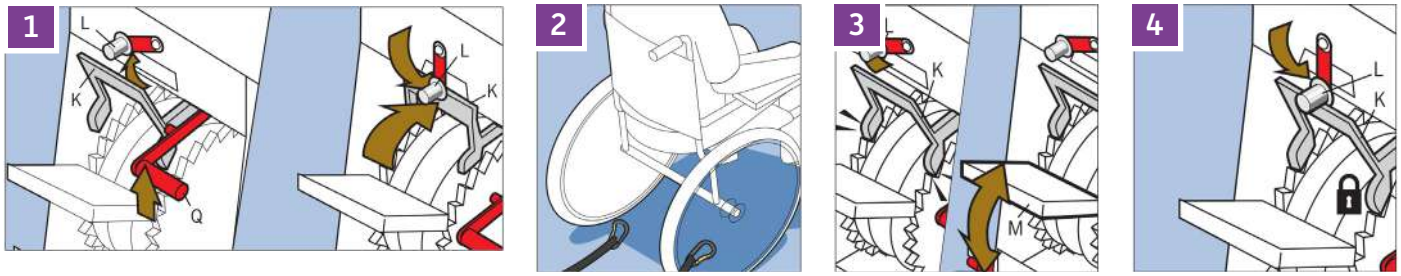
6 – ⚠ **Caution: There must be no forward or backward movement of the wheelchair once it has been secured.**

7 – Secure the passenger using the two all age inertia belts. Take one belt and insert it into the buckle. Repeat using the other all age inertia belt and fixing it into the buckle on the other side of the seat.

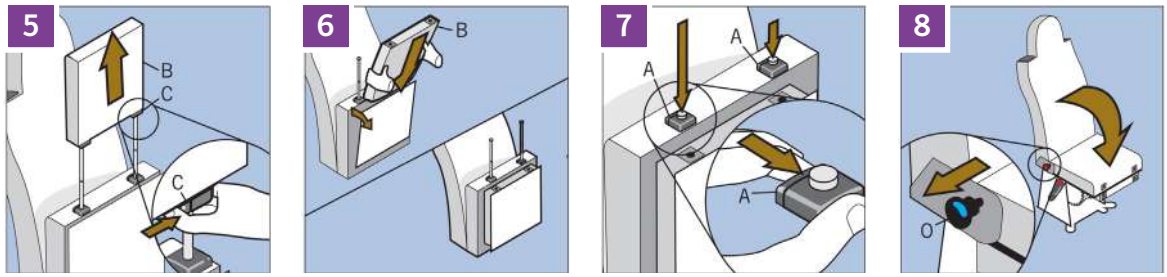
8 – Position the age adjuster **N** (on both adjuster belts) to ensure webbing does not cut across the occupants neck.

Turning Seat From Wheelchair User Mode to Standard Mode

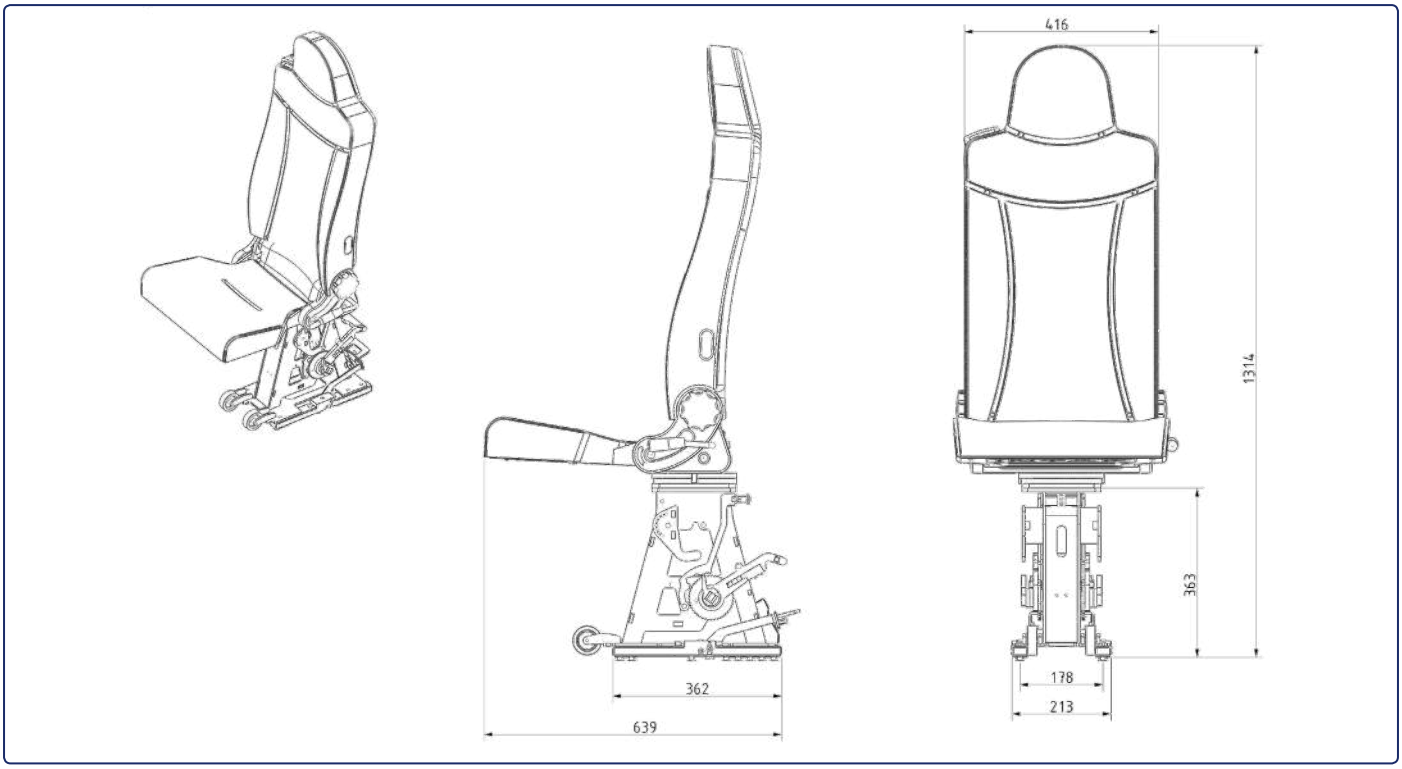
Releasing the wheelchair and user and converting the RKR MK2 to seat mode



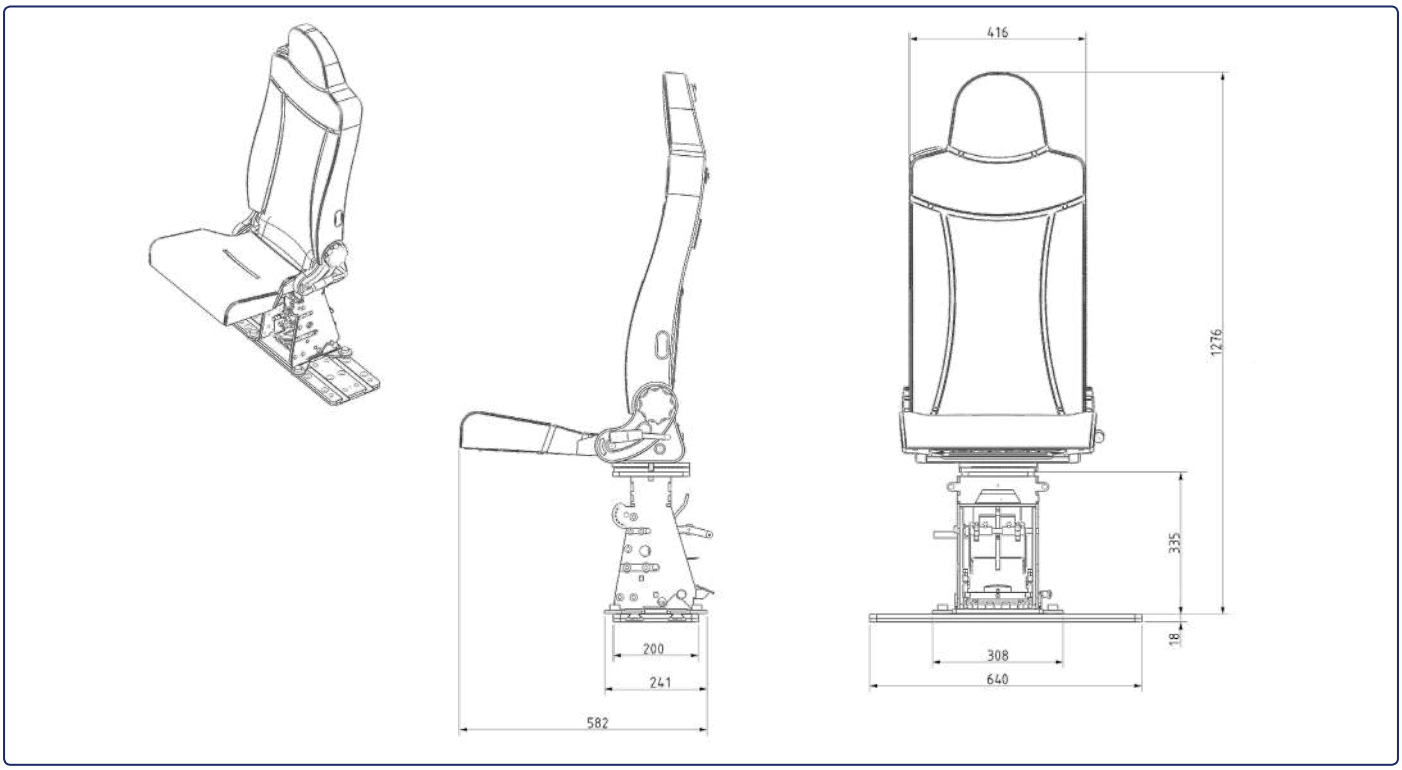
1 – Detach the user from the all age belts. To release the webbing, swing **L** from behind **K** then lift up red handle **Q** to lift up connector bar **K**. Now using your hand push connector bar **K** as far as it will go and rotate red arm **L** down to hold it in place. **2 –** Extend the webbing out to their fullest extents from the front of the wheelchair base. Detach the karabiners from the rear of the wheelchair frame. **3 –** Engage webbing by rotating **L** upward to release **K**. Then retract the webbing by pumping foot pedal **M**. **4 –** Then safety catch **L** behind **K**. **5 –** Lift off cushion **B** from the stalks by squeezing **C** on both sides of the stalk. **6 –** Store extension cushion **B** in the elastic pouch at the front of the squab. **7 –** Squeeze **A** and push down the stalks till flush with the seat squab. **8 –** To turn it into a seat pull out plunger **O** and lower seat squab at the same time.



Technical Drawings



RIPS+



RKR MK3

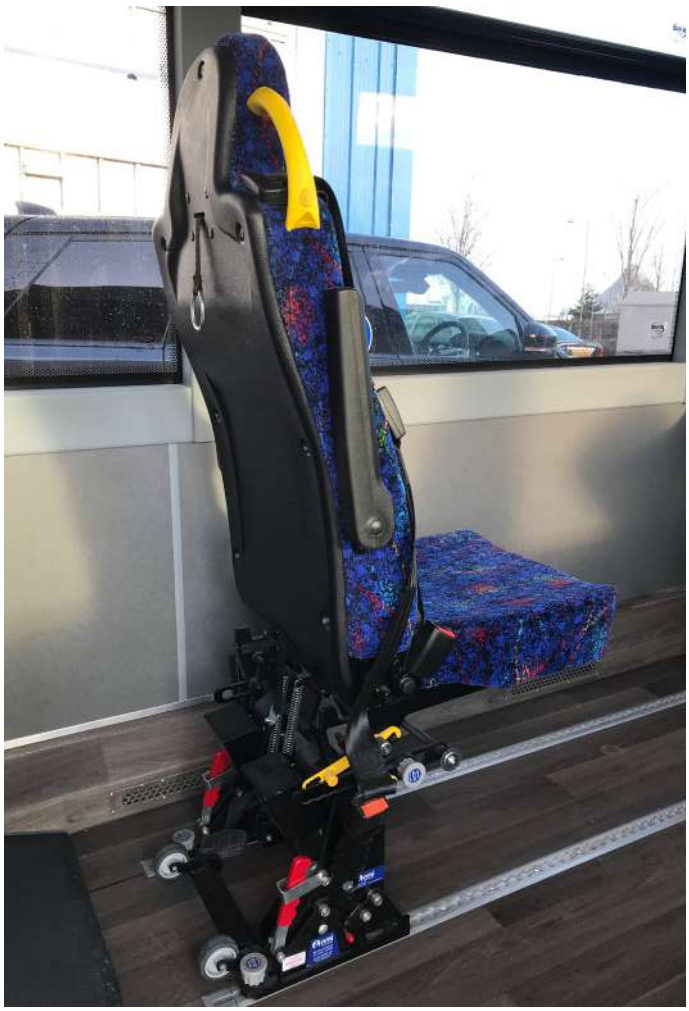
Standard Fixed and Removable RIPS

All Fixed RIPS variants are bolted through the vehicle floor and therefore care must be taken when positioning the unit in the vehicle.

Enough gap must be left between the Fixed RIPS and the vehicle wall. This is to allow room for the wheelchair wheels to run down the side of the Fixed RIPS.

A pedal ratchet system ensures the quick and safe securement and release of wheelchairs.

To save further space we offer a cranked pedal option - left or right handed.



Standard Removable RIPS

Standard Removable RIPS locate into tracking with 330mm pitch.

They are all securely located into the tracking using patented Millennium fittings.

They all have wheels located at the rear of the base to allow for easy manoeuvring of the seat.

They have the flexibility of being easily removed between different vehicles.

Frequently Asked Questions

Why use RIPS instead of 4 point webbing?

Safety! For the wheelchair passenger. RIPS provides back and headrest protection. The seat belt is in the same position every time so easy to use and no room for operator error. 4 point webbing and floor mounted lap and diagonal belts with upper belt to the vehicle wall is arguably more complicated to use, longer installation time to fit and gives no rear impact protection.

Do I have to use the two seat belts provided on each RIPS?

No you don't. Rips are always supplied with two 3 point belts but it is tested and fine to use only one belt. Two belts are provided in case a passenger (seated or wheelchair) has poor upper body strength and slouches to the side. So the two belts form a harness. All RIPS are fitted with one child seat adjuster. It can be used for the seated or wheelchair passenger. RIPS are always supplied with two extension belts. These may or may not have to be used and are good for use with both seated and wheelchair passengers.

Can we carry electric wheelchairs?

Yes.

The combined tested weight of wheelchair and passenger is 200kgs. The SWL is higher than the tested weight.

Flexibars

They are designed to flex as they are made from spring steel. They are designed in this way so that they put less stress on the wheelchair frame than if they were rigid.

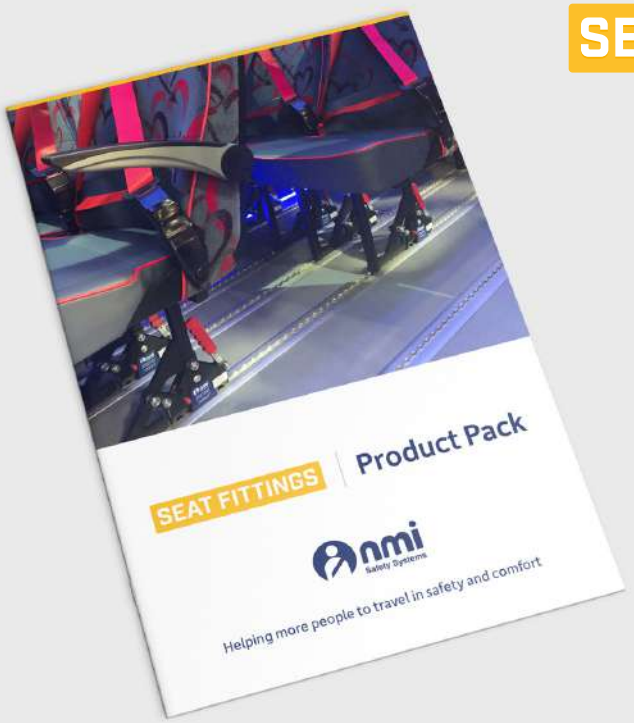
Did You Know?

We have a large range of vehicle safety products

Contact us to find out more or request a product pack. Only a couple shown below.

M1 ULTRA LITE COMPOSITE FLOOR

M2 SUPER LITE COMPOSITE FLOOR



SEAT FITTINGS

Notes

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ISO 9001:2015 Quality Management

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