

multimac
safety without compromise

INSTALLERS MANUAL

The complete guide to
installing your Multimac
in any vehicle



FITTING INSTRUCTIONS FOR MULTIMAC TETHER STRAPS

Your Multimac has been designed with the highest standards of safety and comfort in mind. So it's essential every care is taken to install it correctly and securely.

This step-by-step guide will walk you through the five types of fitting, clearly illustrating how the tether straps are routed and secured, no matter which vehicle you're fitting your Multimac into.

Once the tether straps have been fitted correctly, you can easily put in or take out your Multimac, quickly and securely.

With the Multimac securely in place you can rest assured your child will enjoy the safest and most comfortable journey possible.



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FITTING INSTRUCTIONS FOR MULTIMAC TETHER STRAPS

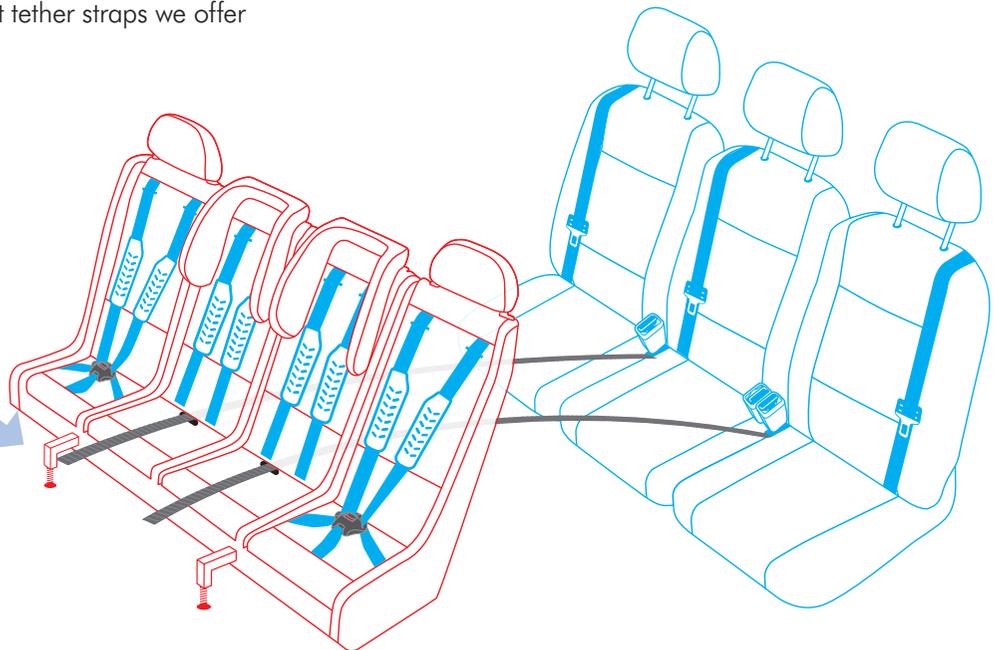
Once the tether straps have been fitted into your vehicle you can put the Multimac in or take it out yourself in a few minutes.

The tether straps normally attach to the existing seat belt mounting points in your car, which are of sufficient certified strength, and we recommend this is done by one of our approved fitting agents, or your local garage, unless you are a competent DIY mechanic.

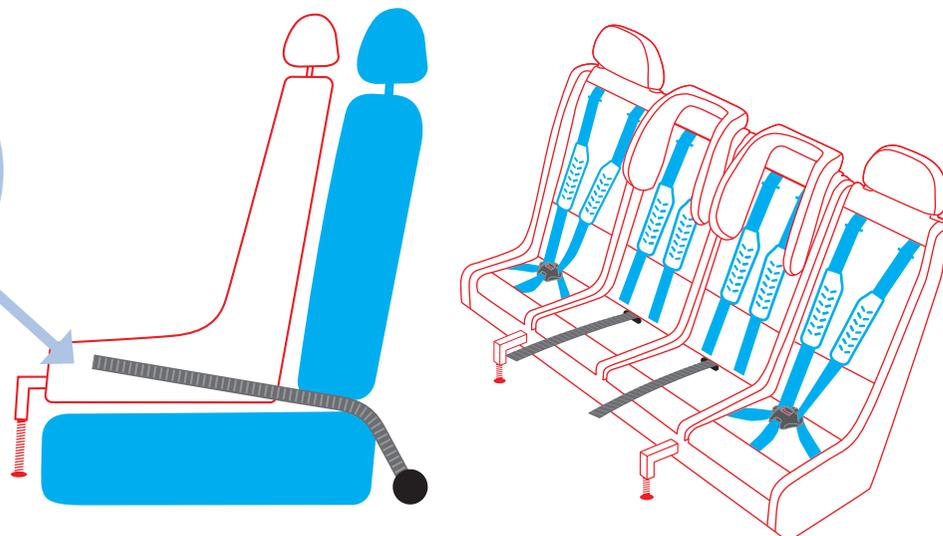
The following pages show the different fitting arrangements and different tether straps we offer for different types of car.

If you state your **car model type and year** when you order your Multimac, we will send the correct parts with the Multimac, normally to your local fitting agent.

Multimac sits on the car's back seat



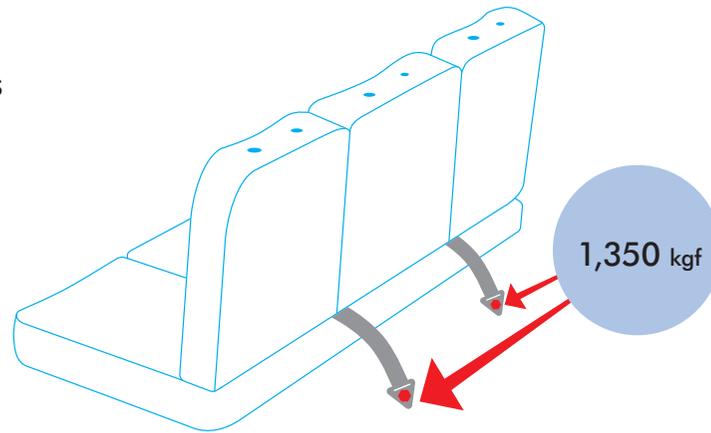
It is secured in place by two tether straps



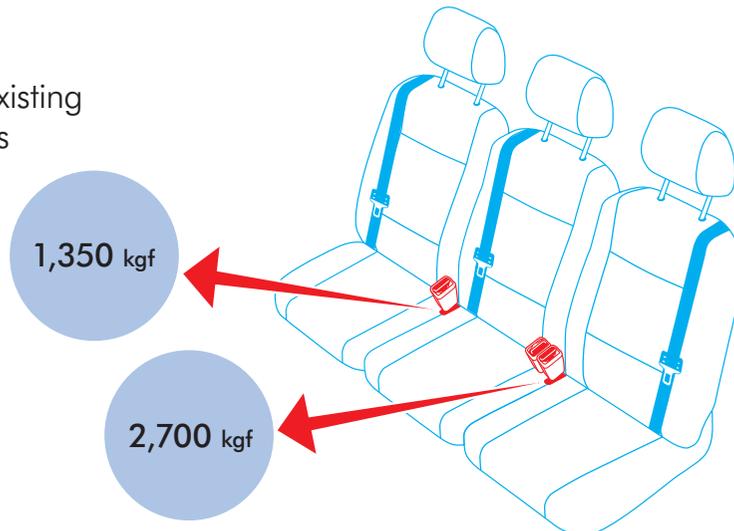
NOTE: ISOFIX POINTS ARE NOT STRONG ENOUGH AND SHOULD NEVER BE USED

STRENGTH REQUIRED

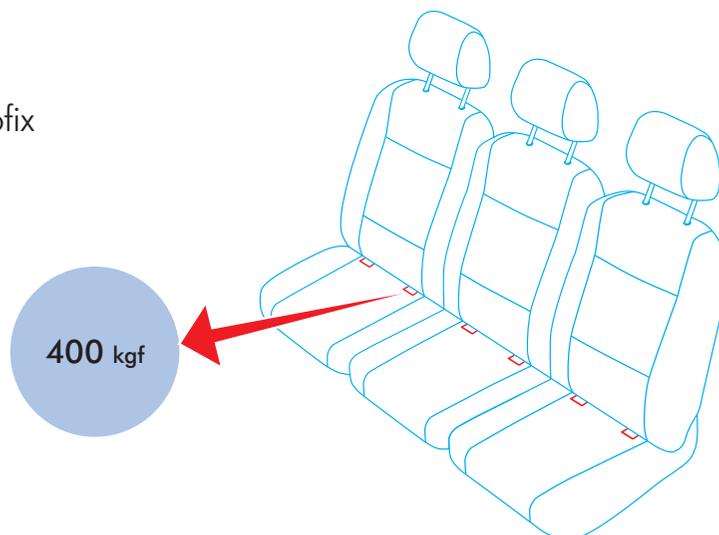
Force in Multimac tethers



Certified strength of existing car belt buckle mounts



Certified strength of Isofix



CONCLUSION: You must never use ISOFIX
Any existing buckle mounting is strong enough for Multimac tethers

FITTING THE TETHER STRAPS

The five different types of fitting are described on the following pages, and although most cars just require the two tether straps to be fitted, some cars have additional requirements.

Adult Buckles:

- The existing adult buckles may need replacing with our 'flexible' buckles if they protrude rigidly through the car seat cushion and would be damaged by the Multimac sitting on them.

Spacers: may be required

- **Under the Multimac:** if your car has a raised centre console in the centre of the back seat.
- **Under the Multimac:** if your car Adult buckles protrude just a few millimetres above the car seat, rather than replacing them as above.
- **Behind the Multimac:** if rigid wheel arches restrict the width of the back seat, and pushing the Multimac forward a few centimetres allows a wider Multimac to fit.
- **Behind the Multimac:** if your car has immovable headrests which restrict our headrests from raising and lowering.

Floor plates

- Some cars have 'storage boxes' in the floor in front of the rear seats, and the lids of these are not strong enough to support our legs in the case of an accident. For these cars, we provide strong metal plates to replace or fit over the existing lids.

Normally these requirements will be noted on our 'Will it fit?' check page, but if you fail to add them to your Multimac order we will contact you and can add them manually.

Routing of tether straps:

The tether straps should pull the Multimac back and down on to the car seat, so it is important they are routed correctly.

More details of the above are on the following pages.

THE FIVE TYPES OF FITTING

Normal Fitting – 1

Replace existing buckle mounting bolt with eye bolt, and use standard tether strap.



Normal Fitting – 1A

As above, but with replacement adult buckles.



Normal Fitting – 2

Fit 'plated tether' onto exiting mounting stud, and retain existing car buckles.



Normal Fitting – 2A

As above, but with replacement adult buckles (See 1A).

Normal Fitting – 3

Fit 'wrap around' around structural seat tube.



Normal Fitting – 4

Use eye-bolt to replace existing seat mounting bolt.

Special Fitting – 5

If none of the above are possible.

REPLACEMENT ADULT BUCKLES

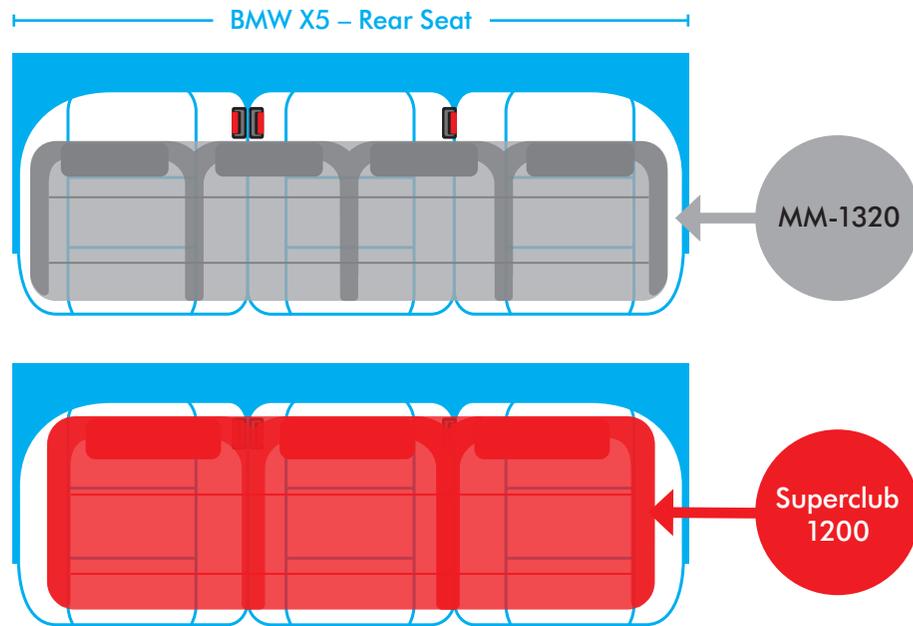
These are required if the existing buckles protrude rigidly through the seat cushion, and the Multimac would sit on them.

On some cars with curved back seats, the Multimac will sit in front of the buckles, so it does not matter that they protrude.



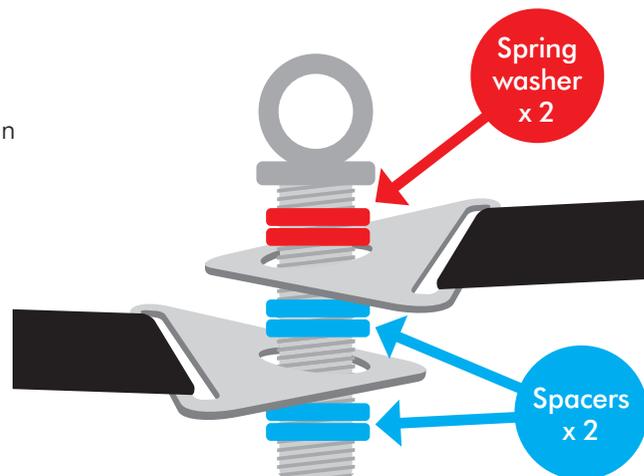
In some cases (BMW X5 for example), our wide MM-1320 4-seater will sit in front of the (rigid) buckles, so they don't need replacing, but the narrower Superclub-1200 would sit on them, so they must be replaced.

We will advise on each order if you do need them.



Our replacement buckles attach via webbing, so they can be tucked out of the way when the multimac is installed.

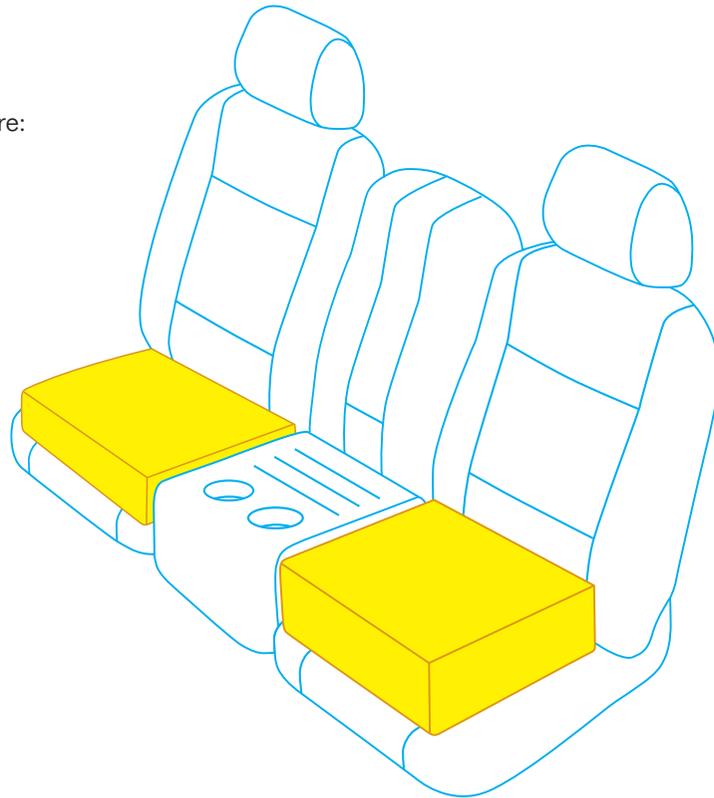
Fitting the replacement buckles is detailed on page 8.



SPACERS

Typical examples of spacer requirements are:

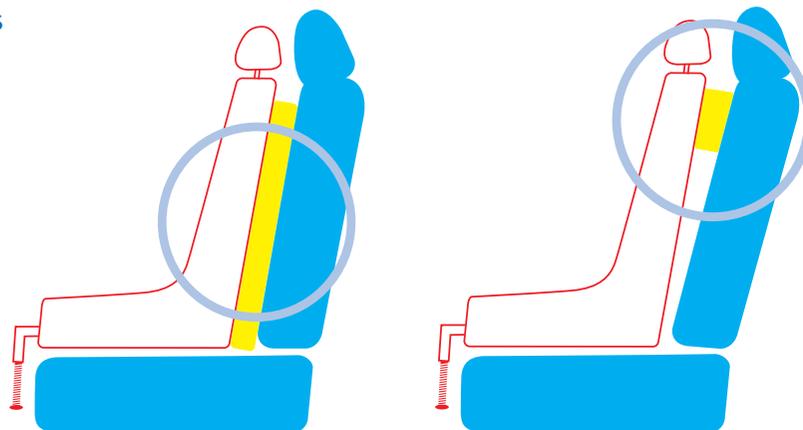
Raised Centre Console



Intrusive Wheel Arches or Curved Back Seat



Non removable Headrests

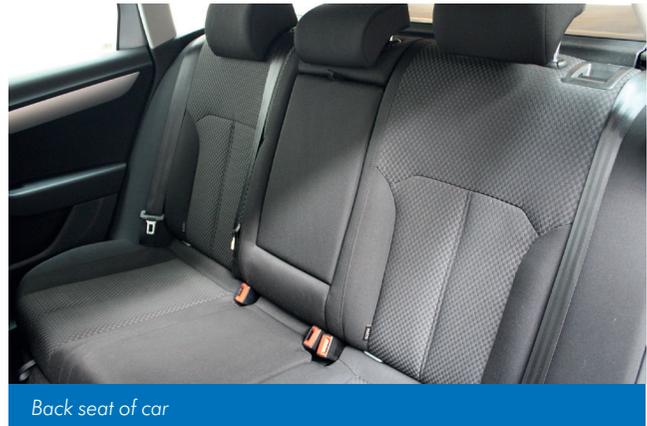


With fixed back seats

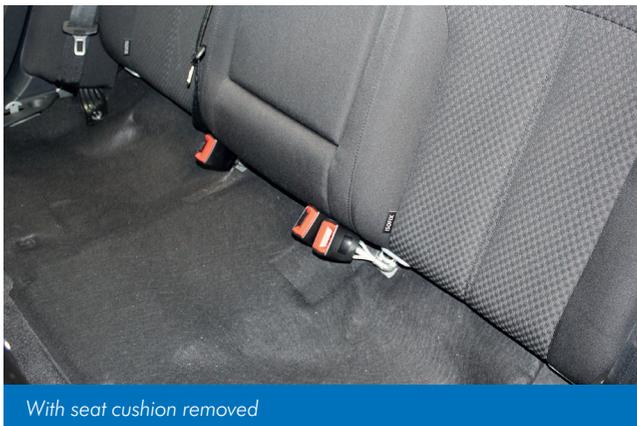
With adjustable back seats

NORMAL FITTING – 1: REGULAR TETHER

Replace existing buckle mounting bolt with eye bolt, and use standard tether strap.



Back seat of car



With seat cushion removed



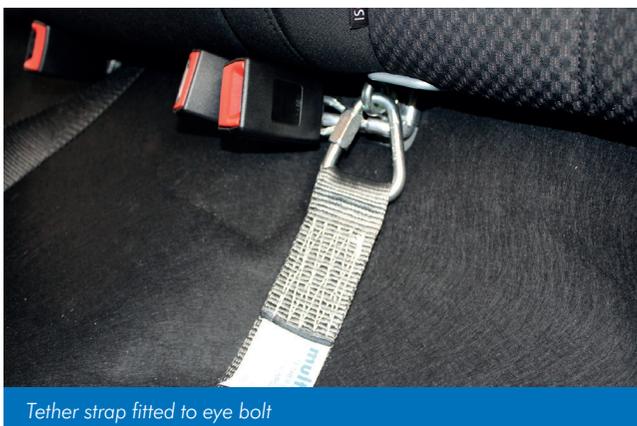
Existing buckles bolted to floor



Bolt removed, and Multimac eye bolt



Multimac eye bolt replaces original bolt



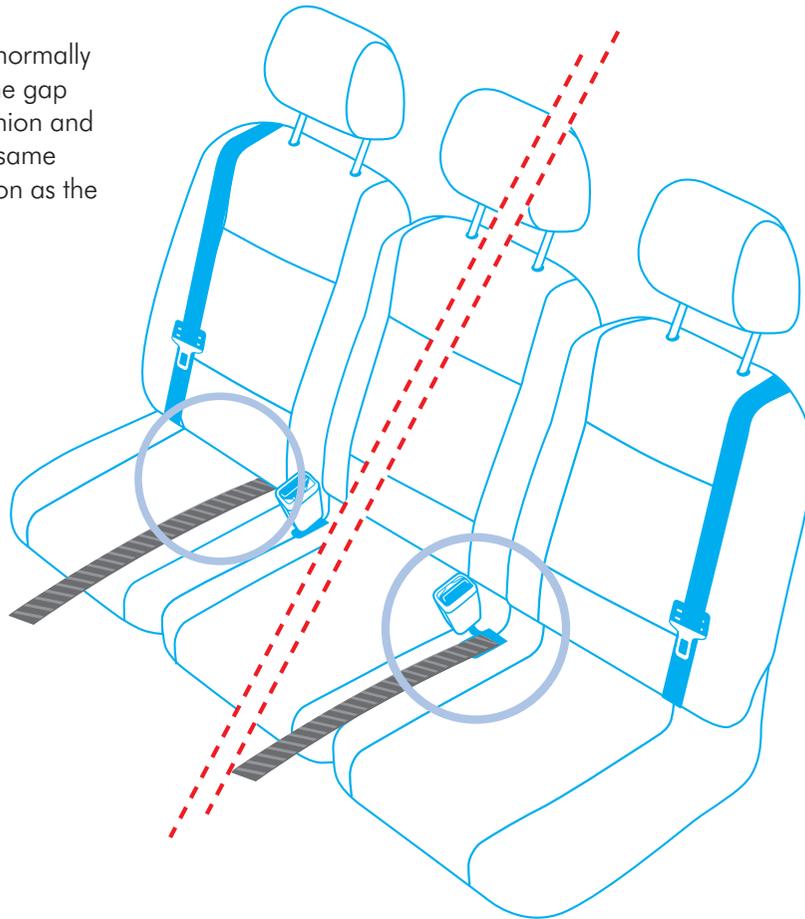
Tether strap fitted to eye bolt



Cushion replaced, showing tether straps and buckles both fitted

Routing:

The tether straps will normally pass either through the gap between car seat cushion and back, or through the same hole in the seat cushion as the car seat buckles.



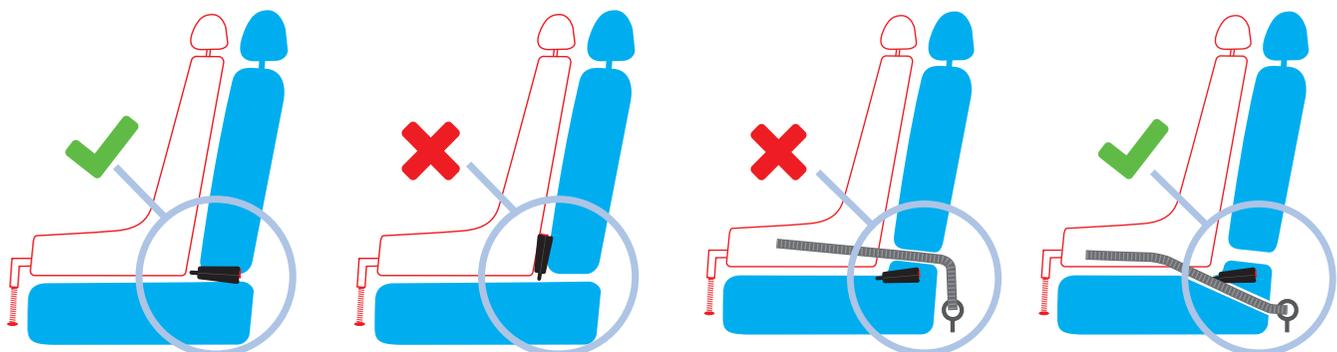
Caution: Obstruction

When fitting the Multimac, check that each existing car buckle is folded out of the way and does not obstruct Multimac. Ensure each buckle is not trapped between the rear of the Multimac and the car seat, where it can compress the back cover of the Multimac and trap the harness so it cannot adjust.

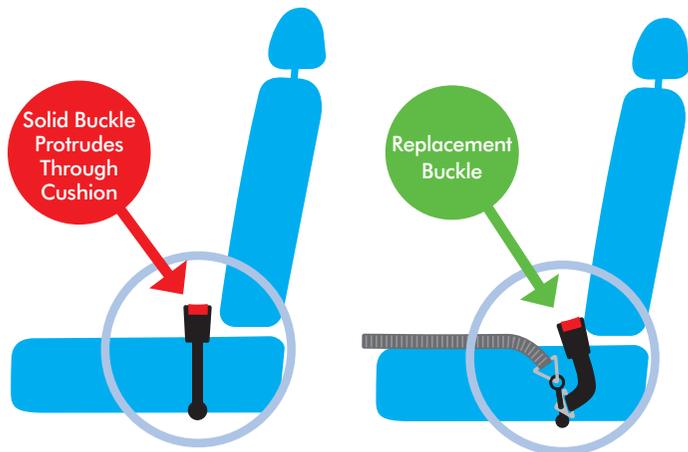
Caution: Height of Tether Strap

Because of ISOFIX points, many car seats now have the joint line between seat base and back above the ISOFIX points, and thus higher than the seat cushion.

It is important that the tether straps pull the Multimac back and down into the car seat, so they must be routed lower than this joint line: either passing through the car buckle holes, or remove the plastic housing around the ISOFIX holes and pass them through this.

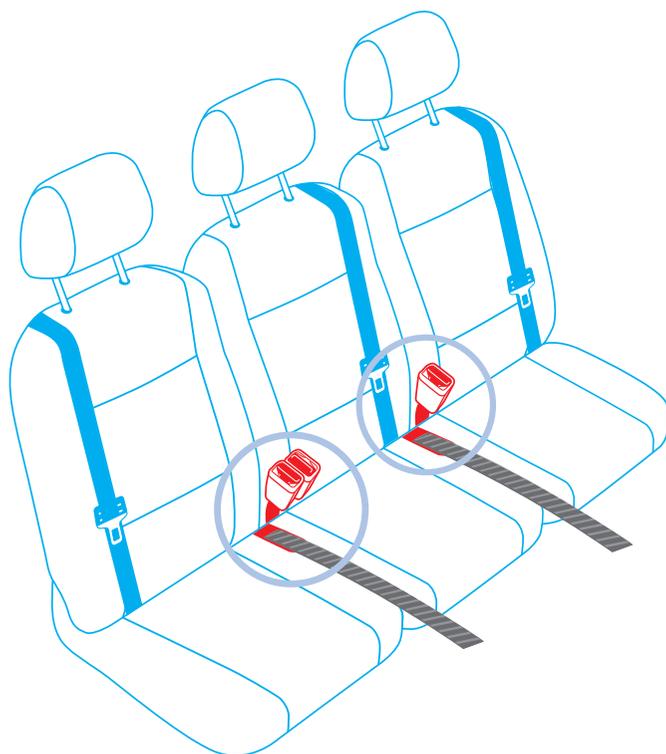
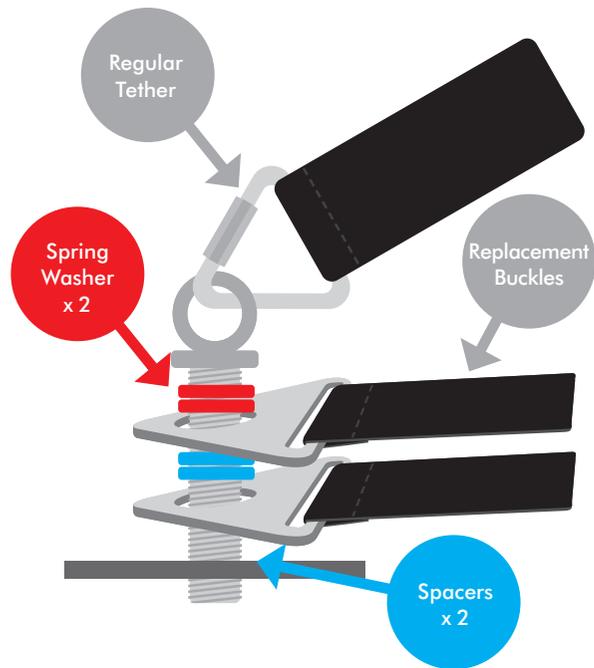


NORMAL FITTING – 1A: REGULAR TETHER WITH REPLACEMENT BUCKLES



If the existing car buckles are obstructive, then they are unbolted and removed, and our supplied replacement buckles are fitted with the spacers as shown right.

The spacers are provided to give clearance between adjacent buckle webbings.



Routing:

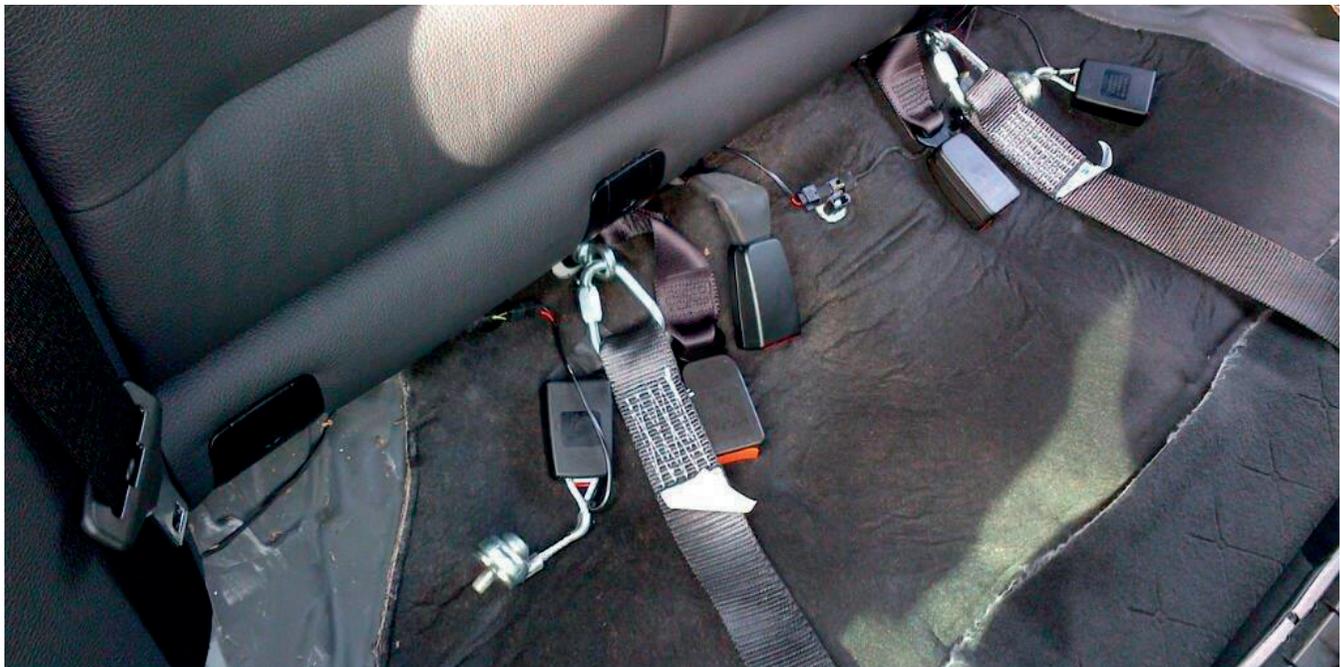
As the objective is to keep the car buckles out of the way, and for the tether straps to pull the Multimac back and down, we normally route the new buckles 'over' the top of the seat cushion, so they can easily be recessed out of the way in the gap between seat cushion and back, and feed the tether straps through the original buckle-holes in the seat cushion.

Wired Buckles:

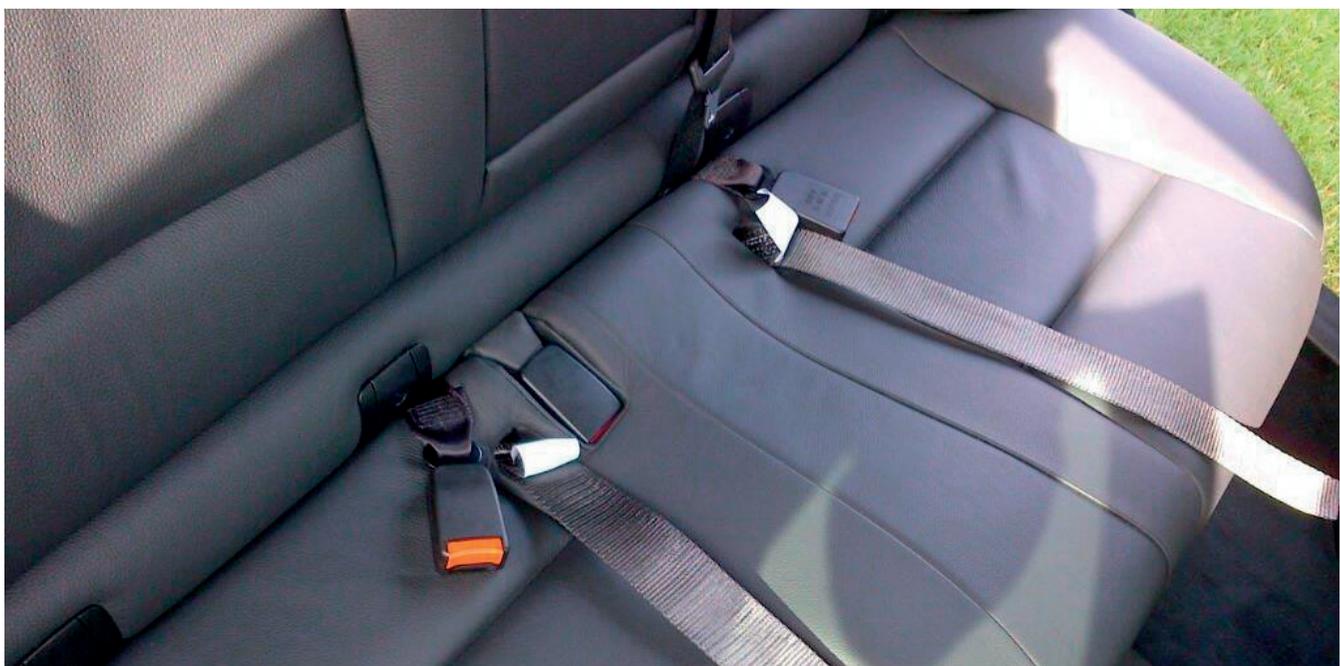
Many modern cars have 'wired' seat belt buckles so that the cars control system knows if the rear seats are occupied. Disconnecting these will cause the ECU to alarm and require an expensive re-set at the dealer, so we normally leave the original buckles attached to their wiring, and just lie them in the seat well where they are 'absorbed' by the seat foam.

In some cars with metal frames to the seats they have to be positioned carefully, and this may involve unclipping the cable clips so the buckle can be moved a greater distance away.

The following photos show this arrangement on a BMW 530, both below and above the back seat.



Under the seat, showing original [wired] buckles lying loose in the seat well



Seat cushion refitted: replacement buckles fed through gap behind cushion, tether straps fed through original buckle holes

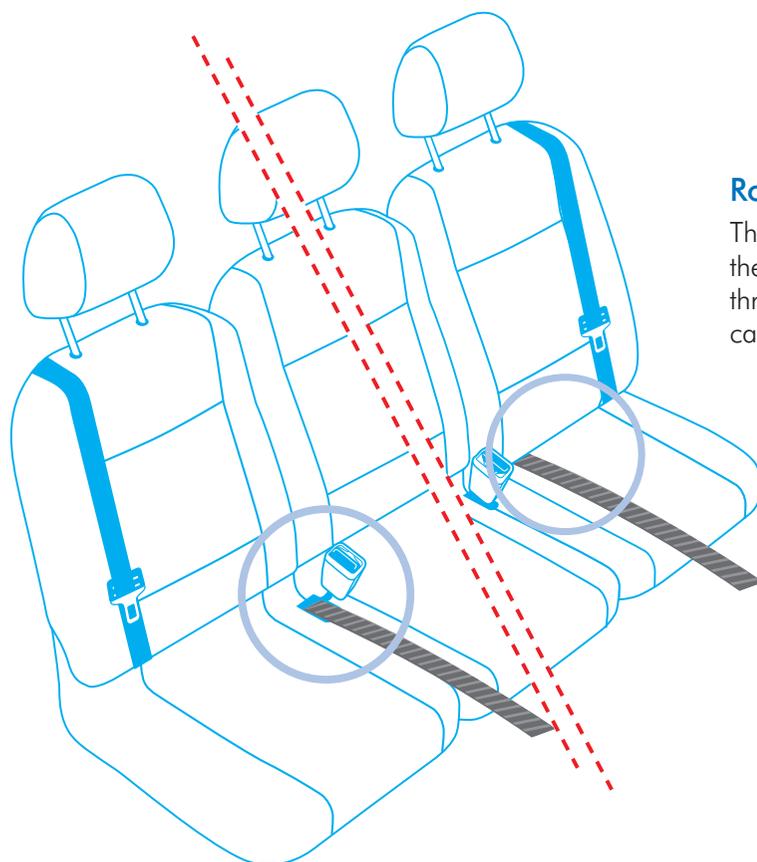
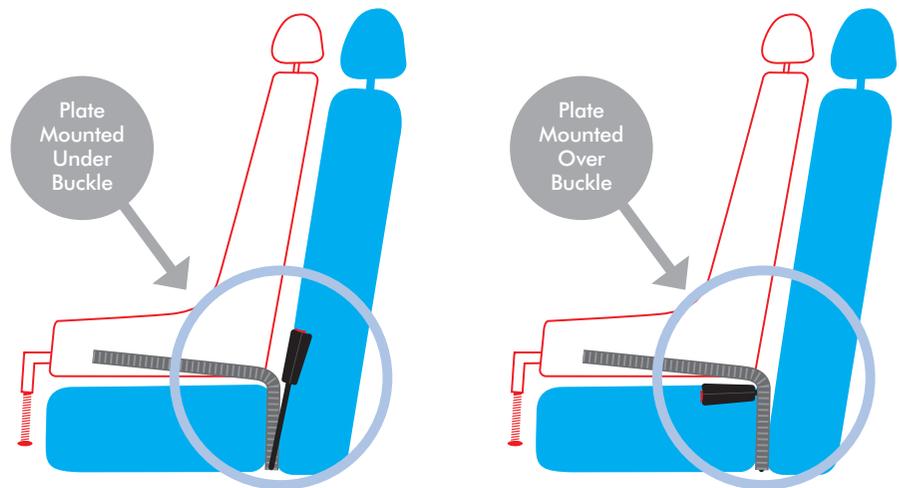
NORMAL FITTING – 2: PLATED TETHER

Some cars mount the seat belt buckles on studs and secure them with nuts. This is traditionally used on American cars, but an increasing amount of European cars are now changing over.

We have an alternative 'plated tether' and how to fit this depends on the configuration of the car, and whether the mounting stud is in front of or behind the buckle, and whether we want the existing buckle to 'lie down' in a seat recess, or to be pushed back into the seat back.



Additionally, we may mount the 'plate' under the existing buckle, or above it, depending on the above geometry.



Routing:

The tether straps will normally pass either through the gap between car seat cushion and back, or through the same hole in the seat cushion as the car seat buckles.



Under the seat, showing seat cushion removed showing plated tethers fitted



Plated tether fitted above existing buckle, on same stud

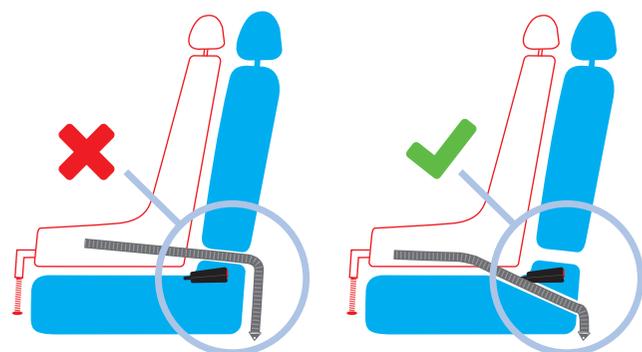


Seat cushion refitted

Caution: Height of Tether Strap

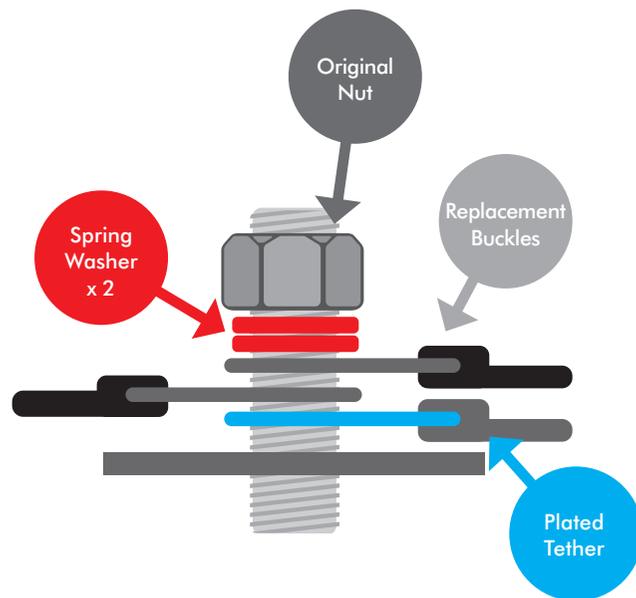
Because of ISOFIX points, many car seats now have the joint line between seat base and back above the Isofix points, and thus higher than the seat cushion.

It is important that the tether straps pull the Multimac back and down into the car seat, so they must be routed lower than this joint line: either passing through the car buckle holes, or remove the plastic housing around the isofix holes and pass them through this.

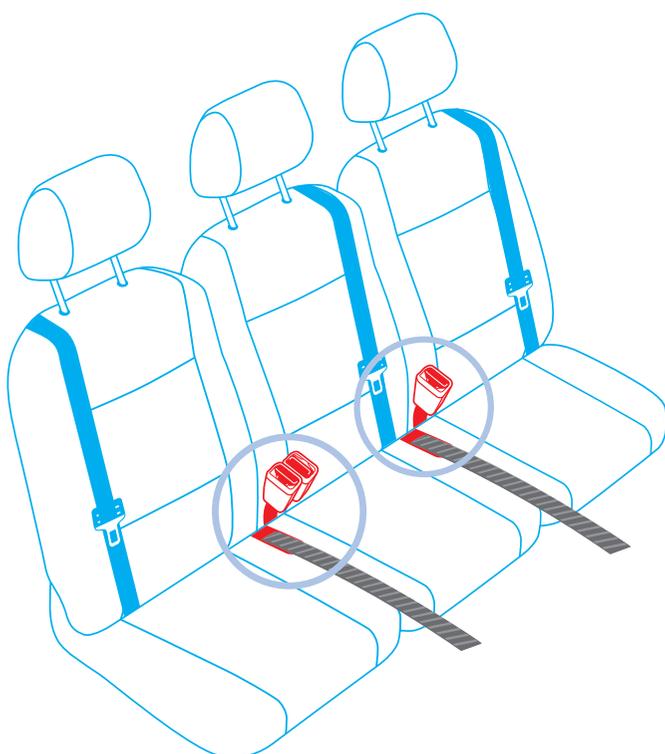
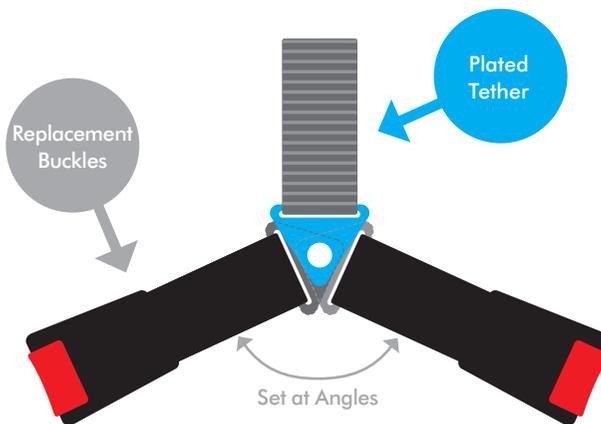


NORMAL FITTING – 2A: PLATED TETHER WITH REPLACEMENT BUCKLES

If the existing car buckles are obstructive, then they are unbolted and removed, and our supplied replacement buckles are fitted as shown.



As the stud may be of limited length we need to reduce the thickness of our additional mounted plates as much as possible, and this is best achieved by fitting the replacement buckles at an angle to each other, so the two sets of webbing do not lie above each other.



Routing:

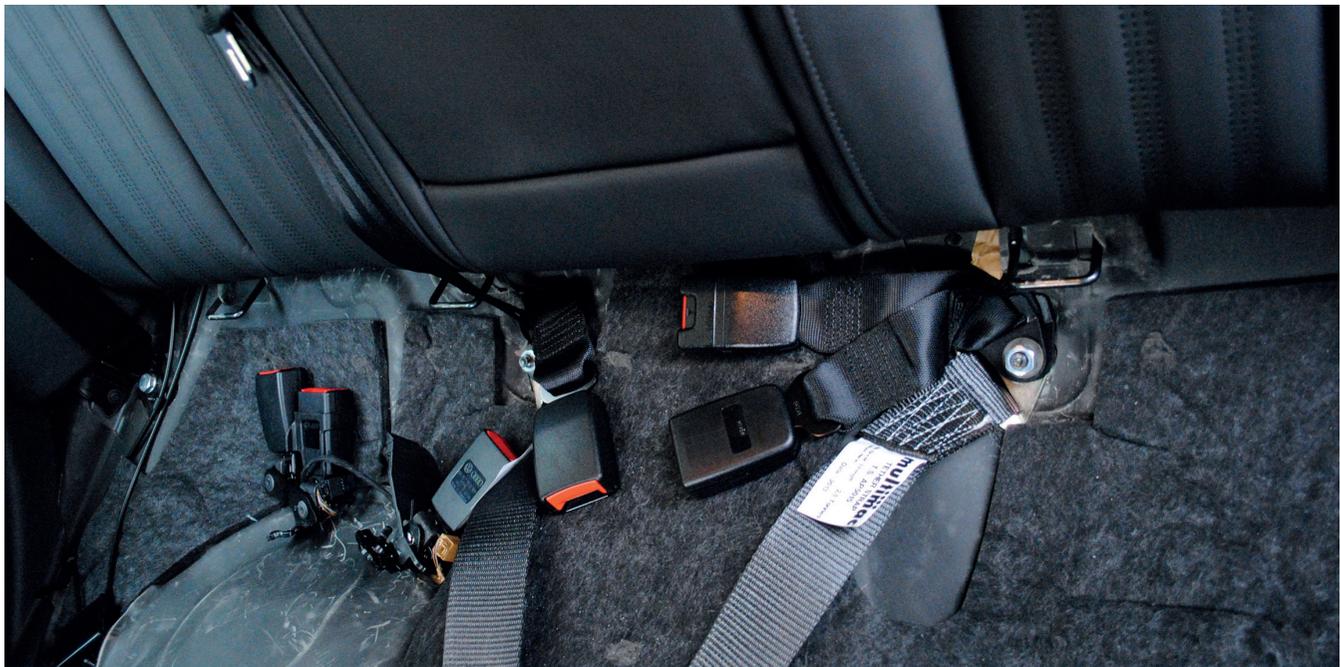
As the objective is to keep the car buckles out of the way, and for the tether straps to pull the Multimac back and down, we normally route the new buckles 'over' the top of the seat cushion, so they can easily be recessed out of the way in the gap between seat cushion and back, and feed the tether straps through the original buckle-holes in the seat cushion.

Wired Buckles:

Many modern cars have 'wired' seat belt buckles so that the cars control system knows if the rear seats are occupied. Disconnecting these will cause the ECU to alarm and require an expensive re-set at the dealer, so we normally leave the original buckles attached to their wiring, and just lie them in the seat well where they are 'absorbed' by the seat foam.

In some cars with metal frames to the seats they have to be positioned carefully, and this may involve unclipping the cable clips so the buckle can be moved a greater distance away.

The following photos show this arrangement on an Audi A6 both above and below the back seat.



Seat cushion removed showing original [wired] buckles lying loose in seat well



Seat cushion refitted: replacement buckles fed through gap behind cushion, tether straps fed through original buckle holes

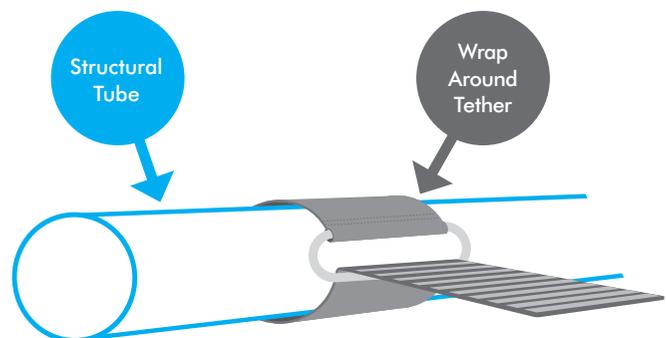
NORMAL FITTING – 3: WRAP AROUND TETHERS

A number of cars with sliding rear seats: mainly SUVs and some MPVs, have a seat frame made by the Germany company Brose and this has a main horizontal structural tube at it's base to which are attached the sliding mounts, the seat back and the adult buckles.

We have a tether strap which wraps around this tube, which we know is strong enough because it supports the adult buckles.

Typical cars are Range Rover, Audi Q5, BMW X1 (FWD) and 2-series Active Tourer, Discovery Sport, VW Transporter.

By looping the ring of our tether over the Isofix loop, and then feeding the tail end of the tether underneath the tube and through our ring, we ensure that the tether is in the right place.



Wrap-Around-tether wrapped around structural seat tube

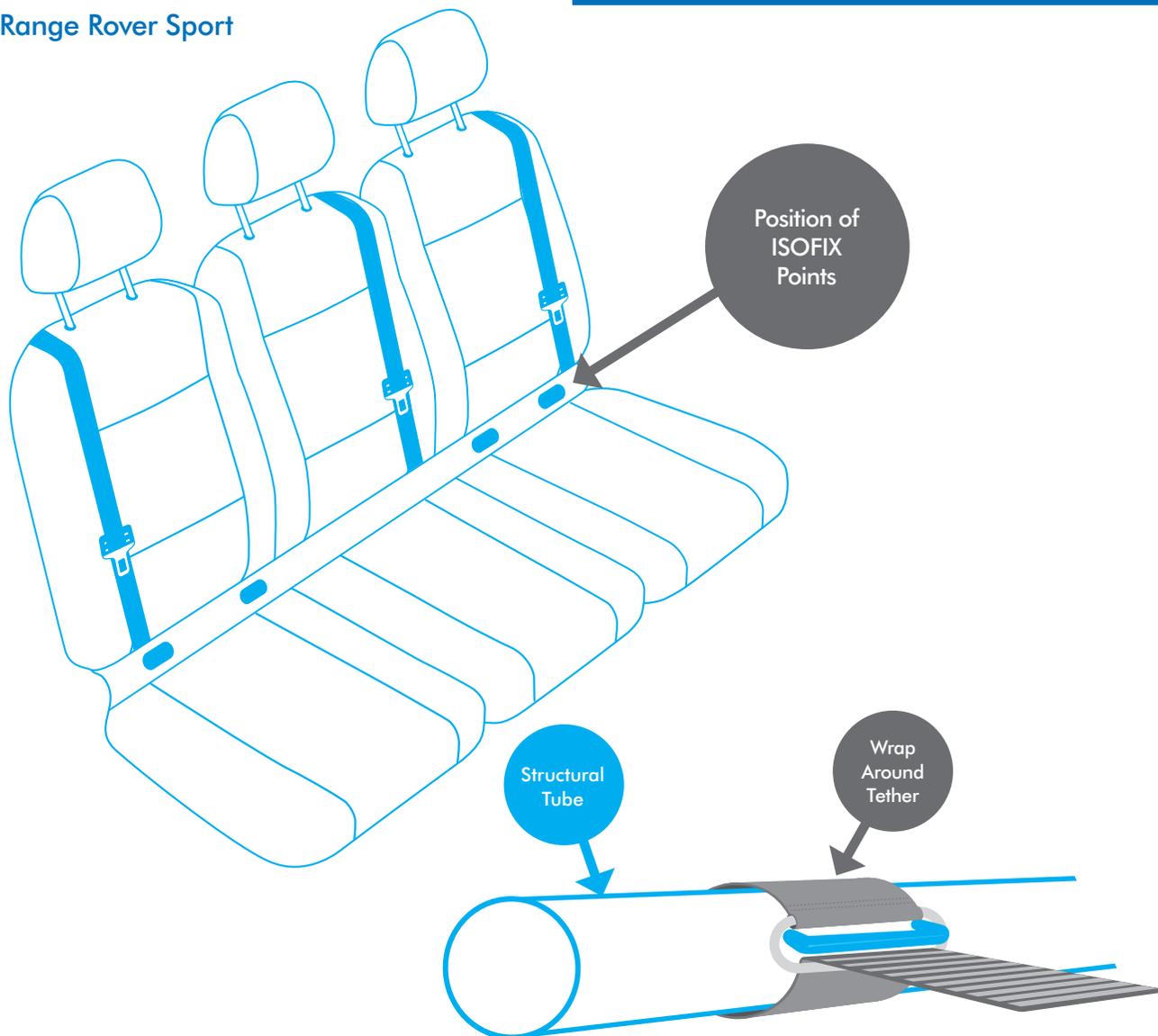
Caution: Plastic covers

If your Isofix points have plastic housings around them, these must be removed (unclipped) to give enough width for the tether straps.



Plastic Isofix cover removed to give room for tether strap

Range Rover Sport

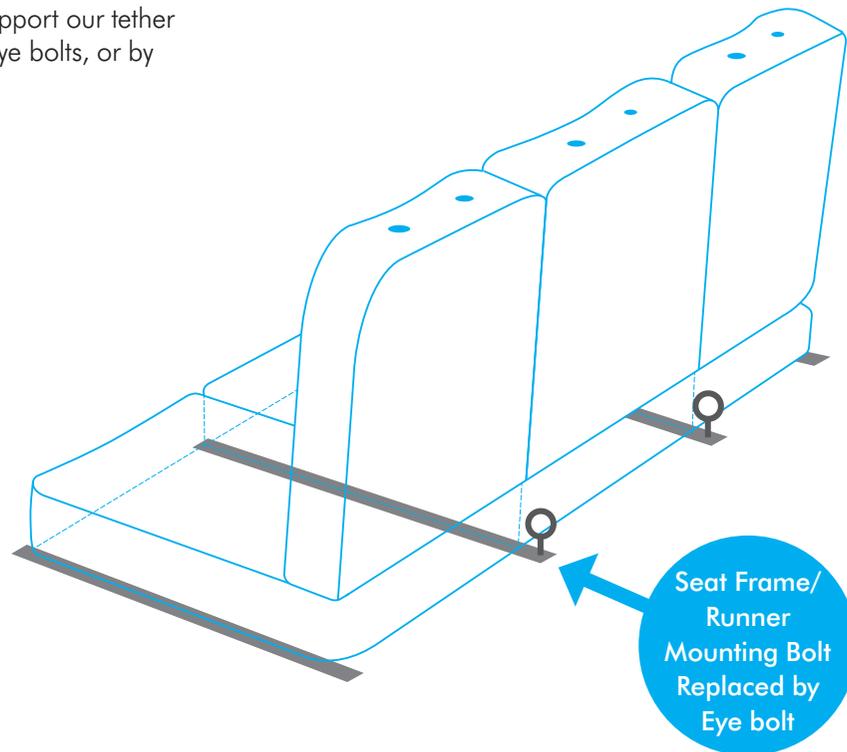


Showing how Isofix point is used as a datum for tether strap position

NORMAL FITTING – 4:

In some SUV type cars (Volvo XC-90, Discovery 3,4) where the middle row of seats are individual, and the buckles mounted high in the seat frame, the seat frames bolt to the floor with typically 4 bolts.

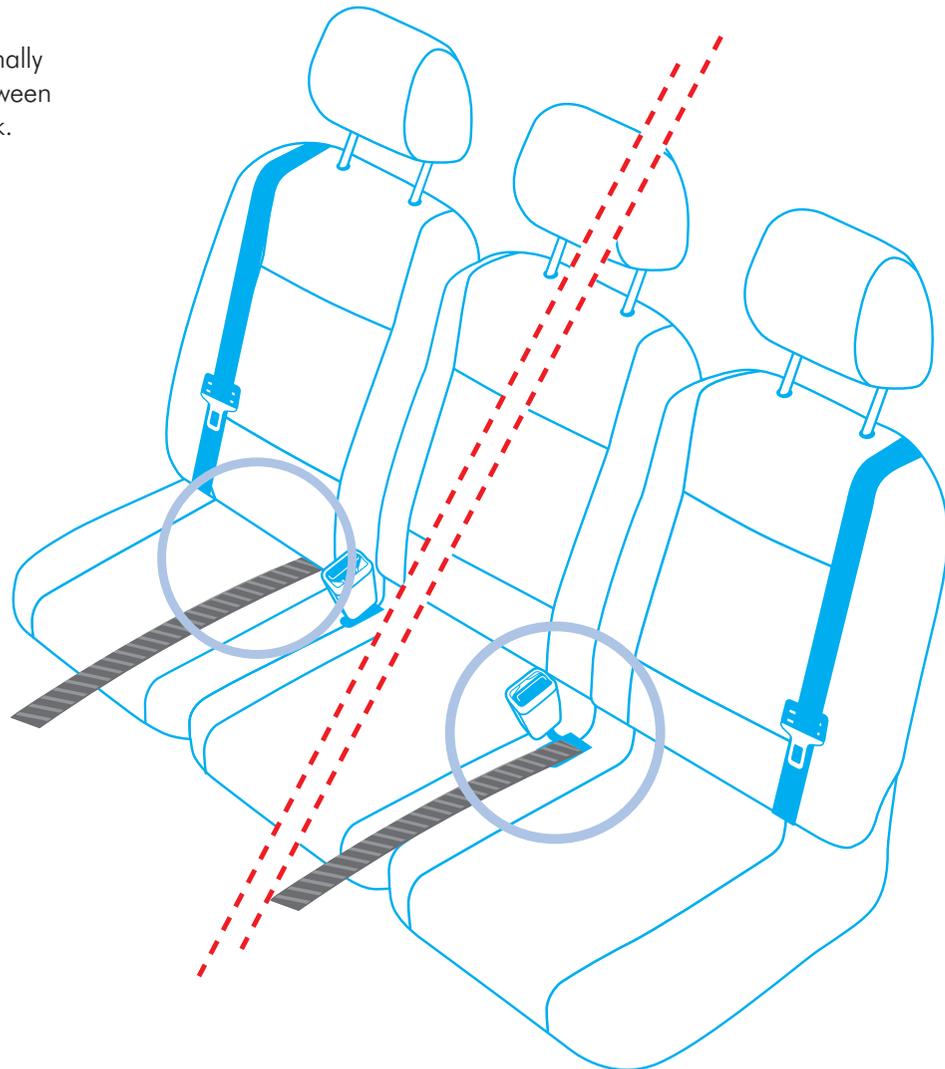
If these bolts are minimum 10mm and support both the seat and by definition the seat belt buckle (which is attached to the seat), then they can support our tether straps, either by being replaced with eye bolts, or by using the plated tethers.



Examples showing eye bolt fixings, and tether strap routings

Routing:

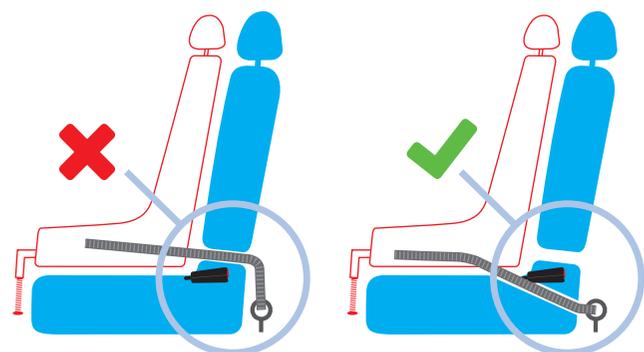
The tether straps will normally pass through the gap between car seat cushion and back.



Caution: Height of Tether Strap

Normally, the tether strap would pass through the gap between the seat back and the seat cushion, but because of Isofix points, many car seats now have the joint line between seat base and back above the Isofix points, and thus higher than the seat cushion.

It is important that the tether straps pull the Multimac back and down into the car seat, so if this is the case, it is most convenient to pass each tether strap through the gap between the central seat and the adjacent outer seat. It does not matter that the tether strap goes through this gap 'vertically' and then twists to go horizontally into the Multimac base: the webbing is rated 5 tones, and the max force in it is 1.35 tonnes so it has a considerable factor of safety.



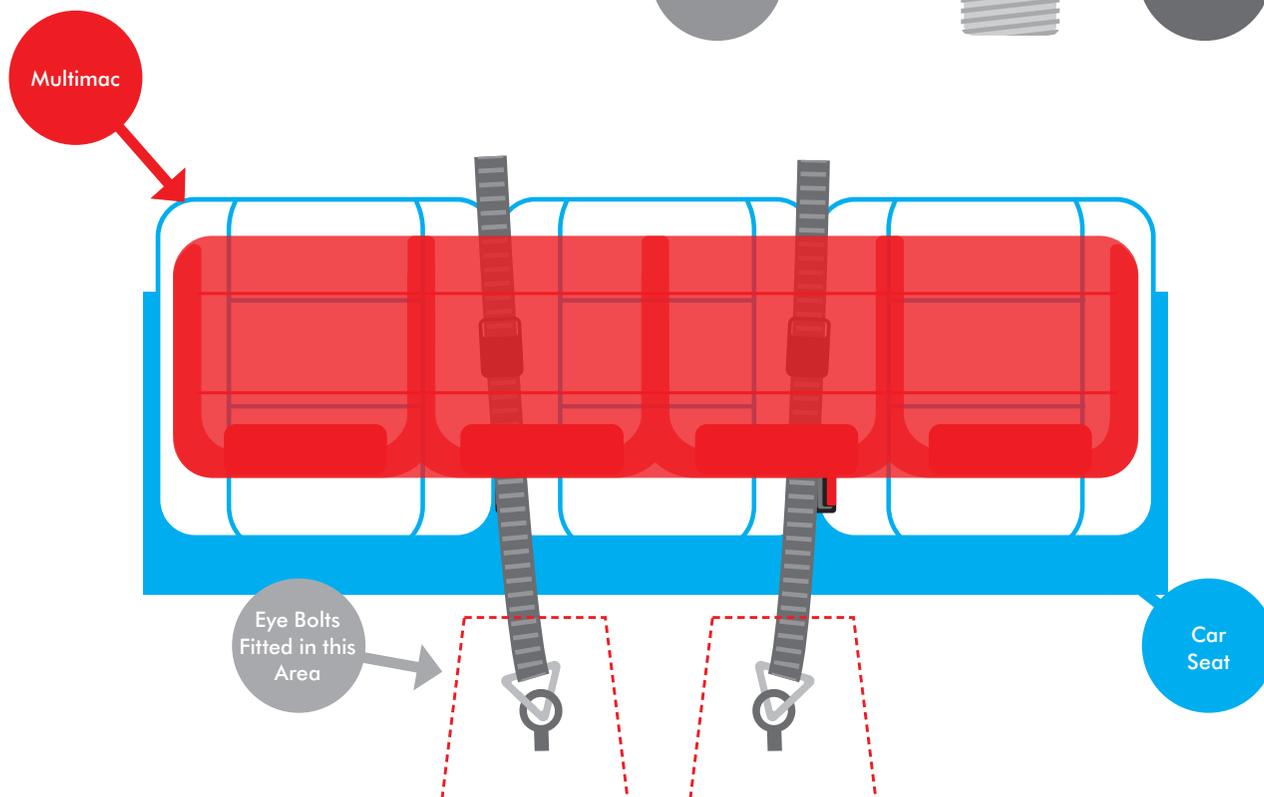
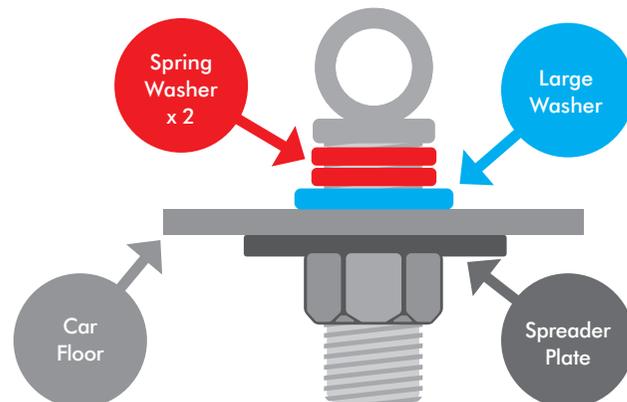
SPECIAL FITTING – NEEDS TO BE DONE BY APPROVED FITTING AGENT:

If none of the 4 'Standard Fittings' are available, then as a last resort we have to drill the floor and fit the eye-bolts, using a spreader plate underneath.

Typical cars are the middle row of 7-seaters and the very popular new Nissan X-trail, and old Qashqai +2.

To fit these we recommend you position the multimac on the car seat, and fit the tether straps so you can see where they naturally fall, and where the eye-bolts should be fitted. There is actually quite a lot of tolerance in the angle of the tether strap so you have quite a large area available, although for practical reasons you want the tethers as close to the seat back as practical, so as not to lose boot space, or rear passenger room.

Make sure that the eye-bolts are positioned so that any rear seat can still fold into its well.



NOTE THAT THE ACTUAL WEBBING HAS A STRENGTH OF 5-TONNES, WHILE THE MAX FORCE IS 1.35 TONNES, SO THERE IS A LOT OF TOLERANCE FOR THE WEBBING NOT TO BE EXACTLY STRAIGHT

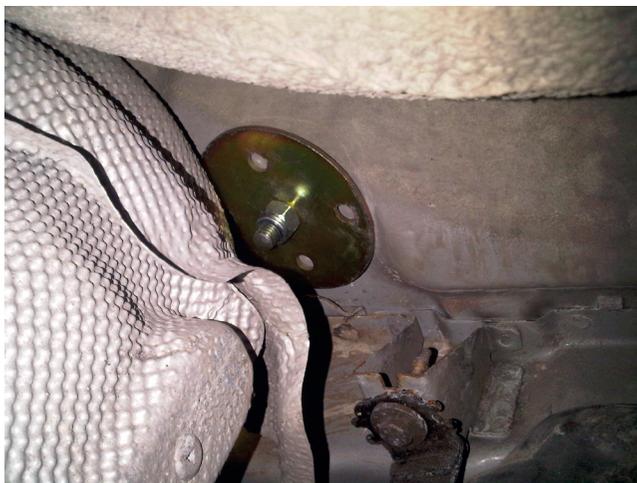
Following photographs show some examples:



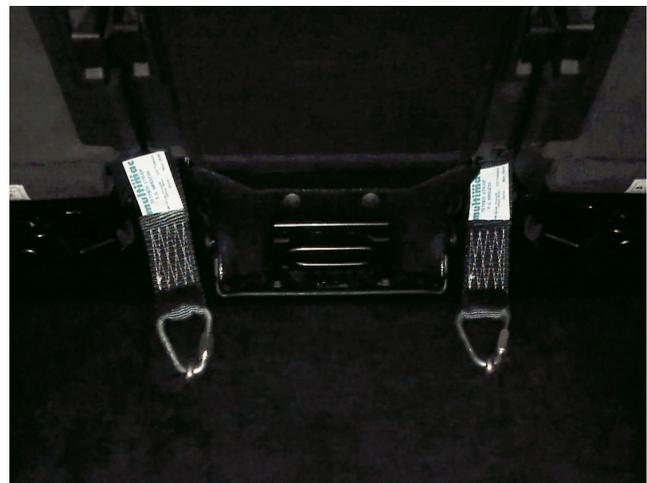
Floor drilled and eye bolts fitted



Spreader plates fitted under car floor



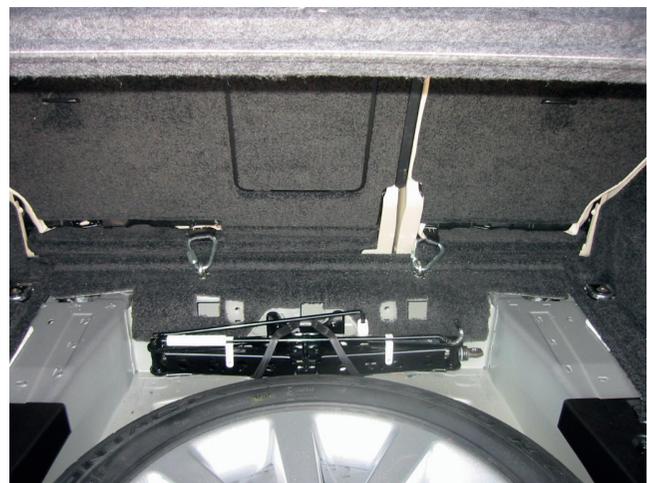
Spreader plates fitted under car floor



Tether straps fitted to eye bolts



Existing holes in Range Rover [L322] used for fitting eye bolts and spreader plates, and showing tether straps fitted



multimac

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0121 44 22 007

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