

The LATCH System

LATCH stands for Lower Anchors and Tethers for Children. It's also known as ISOFIX in Europe and LUAS (Lower Universal Anchorage System) in Canada.

LATCH is a way to secure a child safety seat to the vehicle using straps from the child safety seat that connect to special metal anchors in the vehicle.

VEHICLE LATCH ANCHORS:

Lower Anchors: These are a pair of metal "u-shaped" bars hidden in the vehicle's seat crack.

Tether Anchors: These are metal rings, one found behind each rear vehicle seat.

Vehicles model year 2003 and newer must have lower anchors in at least TWO positions and tether anchors in at least THREE positions. This means that in most vehicles, the side seats have lower anchors AND top tether anchors, while the center seat has a tether anchor but NO lower anchors.

CHILD SAFETY SEAT LATCH STRAPS

Lower Anchor Strap: All child safety seats that use the vehicles lower anchors have a lower anchor strap with a hook on either end. Some child safety seats have two separate lower anchor straps, each with a hook on one end. These hooks connect to the vehicle's lower anchors.

Tether Strap: Most forward-facing child safety seats that use LATCH come with not only a lower anchor strap, but also a tether strap. The tether strap comes from the top of the car seat and has a hook on the end that lets it connect to the tether anchor in the vehicle.

Lower anchors are used INSTEAD of the vehicle's safety belt to secure the child seat to the vehicle. Tethers are used IN ADDITION to the lower anchors OR the vehicle's safety belt to secure a forward-facing child safety seat to the vehicle. {mospagebreak title=Why Use LATCH?}

Why use LATCH?

Why use a tether?

A tether keeps a child's brain and spinal cord safer. A tether decreases how far a child's head will move forward during a crash by as much as 8 inches (Consumer Reports, 1998). The less the head moves forward, the less likely it is to hit hard parts in your vehicle--like the door frame, the window, the back of the front seat, or even other passengers. The tether also reduces the amount of acceleration and how much force is applied to the neck during a crash. Real world studies show that the tether virtually eliminates serious neck injuries.

A more technical explanation: The goal of a child safety seat is to hold a child in a crash and hopefully prevent the head and other parts of the body from hitting hard parts of the vehicle. The measurement of how far forward the child's head moves forward in a crash is called "Head Excursion." Child safety seats sold in the US have to meet head excursion requirements. Before September 1999, all forward-facing child safety seats sold in the US were required to pass a head excursion limit of 32 inches. This means that a child's head could not move forward more than 32 inches (from a point just behind the vehicle seat) in a crash. Since September 1999, all forward-facing child safety seats must pass an additional, stricter head excursion limit of 28 inches. Most forward-facing child safety seats cannot pass this 28 inch limit

without using a tether to hold the top of the child safety seat back in a crash.

Why use the lower anchors?

Because its easier than using the vehicle's safety belt (usually!) A child safety seat needs to be secured very tightly to the vehicle--so that it moves less than one inch in any direction when you pull or push HARD on the child safety seat. This means that the safety belt holding the child safety seat to the vehicle has to be tight and must stay tight. Lower anchor straps stay tight when you pull them tight. Most vehicle safety belts do NOT stay tight when you pull them--the loosen as soon as you let go. In order to get the vehicle safety belt to stay tight you usually need to do something to it, like pull the shoulder strap out all the way or use a locking clip. This is generally more difficult than just pulling a lower anchor strap tight. {mospagebreak title=Is LATCH safer?}

Is using LATCH to secure a child restraint safer than using the vehicle's safety belts?

The simple answer is that in the crash test lab, they are equally safe**. But in the real-world the lower anchors may be safer because they are EASIER to use. The LATCH system's designers hoped that easier would mean fewer mistakes made in securing the child safety seat, and therefore fewer injuries in a crash. It is not yet clear if LATCH is safer in real-world crashes. One small study found that parents were making the same mistakes with LATCH as they made with the vehicles safety belt--that the child safety seat was not secured tightly to the vehicle and that the child was too loose in the harness.

Here are a few things that have been proven to be safer:

1. Always use a tether on a forward-facing child safety seat. Remember, it doesn't matter if you are using the vehicle's safety belt or the lower anchors to secure the forward-facing child safety seat. You CAN still use the tether.
2. Ride in the center of the back seat.

The center seat is 43% safer than the side seats because you can't take a direct hit in the center. While the lower anchors allow for an easy installation, the center of most vehicles do NOT have lower anchors. It is usally NOT ALLOWED to use the inner lower anchors from the side vehicle seats to secure a child safety seat in the center of the backseat. Assuming your vehicle does not have lower anchors for the center seat, it is usually best to try to get a tight installation using the vehicle's safety belt in the center seat first (and remember to use the tether also!) If this does not work, try installing the child safety seat on the side using the lower anchor strap, and of course using the top tether for forward-facing child safety seats.

**Please note that for kids who are heavier than the weight limit for the lower anchors, the vehicle's safety belt is safer and should always be used. {mospagebreak title=LATCH weight limits}

LATCH Weight Limits

Lower Anchors:

There is no agreement between vehicle and child safety seat manufacturers as to the weight limit for lower anchors. If the child safety seat manufacturer's instructions, the vehicle owners manual, or this table do not discuss the issue, it is best to stop using the lower anchors after the child is 40 pounds. In this case, you should use the vehicle safety belt instead of the lower anchors to secure the child safety seat to the vehicle.

Since the lower anchors bear the brunt of the force in a crash, concern for their weight limit is especially important. They are designed to restrain the weight of a child safety seat plus the weight of a small child. The vehicle's safety belt, which is stronger because it is designed to restrain large adults, is a good substitute for the lower anchors when securing a

child safety seat used by a heavier child.

Tether Anchors:

Again, there is no agreement between vehicle and child safety seat manufacturers as to the weight limit for tether anchors. Certain vehicle manufacturers have stated a tether anchor weight limit; to find out check your vehicle owner's manual. In cases where the vehicle owner's manual does not specify a maximum tether weight limit, assume the upper limit is 40 pounds.

Following this 40 pound limit is very problematic, though, since many child safety seats sold specifically for children over 40 pounds REQUIRE the use of a tether. For more information on this controversial and confusing subject, please read this excerpt from the SafeRideNews LATCH manual. Many in the child passenger safety field believe that the risks of NOT using the tether FAR OUTWEIGH the risks of the tether not holding in a crash. Many of us would recommend using the tether no matter how much the child weighs. {mospagebreak title=Which Restraints Have LATCH?}

Which child restraints have LATCH?

Most child safety seats that have harness straps to secure the child will have lower anchor straps. Examples include rear-facing infant seats, convertible, combination, and forward-facing only seats. Most forward-facing child safety seats will have both lower anchor straps and tether straps.

Child safety seats where the child is held in with the vehicle's safety belt – like belt positioning boosters – usually do not use lower anchor straps or tether straps. Car beds (for infants) do not usually have lower anchor straps or tether straps. Some vests and harnesses use a tether strap, and a few use lower anchor straps and tether straps.

Rear-facing Only seats:

- Infant Carrier Bases. These bases are designed for convenience. The base stays installed in the vehicle while you snap the carrier in and out. The lower anchor strap is permanently attached to the base and is either a flexible strap with a hook on either end or a pair of rigid metal hooks. Bases usually do not have tether straps (The Combi Tyro II, which is no longer made, was the only base to have a tether strap).

- Infant Carrier, without base:

- On carriers sold without a base, the LATCH system is a flexible strap permanently attached to the carrier.

- Carriers sold with a detachable base are not required to feature LATCH. Instead, the LATCH system is permanently attached to the base (see above). When installing the carrier without the base, you must use the vehicle safety belt to secure it to the vehicle.

Convertible Seats (these can be used both rear-facing and forward-facing):

- Rear-facing: Typically ONLY the lower anchor belt is used when attaching a convertible seat in the rear-facing position using LATCH. In other words, most rear-facing convertible seats DO NOT use a tether strap. Exceptions include all of Britax's convertible seats and the Sunshine Kids Radian seats--these seats use both the lower anchors and the tether for rear-facing installation.

- Forward-facing: Both the lower anchor strap and the tether strap are used when securing a forward-facing convertible child safety seat. If the vehicle has no lower anchors in the position where you are securing the child safety seat (or your child is too heavy to use the lower anchors), use the vehicle's safety belt instead of the lower anchor strap – but remember to always use the tether strap.

Forward-Facing Only Seats:

- Both the lower anchor belt and the top tether are used to install forward-facing only seats.

- If the vehicle has no lower anchors in the position where you are securing the child safety seat OR if your child is too heavy to use the lower anchors, use the vehicle's safety belt instead of the lower anchor strap--but remember to always use the tether strap.

Combination Seats (these seats can be used as forward-facing 5-point harness seats or as booster seats.):

- 5-point harness mode: Both the lower anchor strap and the tether strap are used when securing a combination child safety seat. If the vehicle has no lower anchors in the position where you are securing the child safety seat, OR if your child is too heavy for the lower anchors, use the vehicle safety belt to install the child safety seat. But remember, always use the tether strap.

- Booster Mode: Most manufacturers do not allow you to use the lower latch anchors or the tether strap when the child safety seat is used as a booster seat. Please read the instructions to your child safety seat to see if it is allowed or recommended. A few seats that do allow using LATCH while in booster mode are the Safeguard Go (allows lower anchors only) and the Britax Frontier.

Vests/Harnesses

- Some vests and harnesses require you to use the tether. With these vests and harnesses the tether is the only thing holding the child's upper body back - without the tether strap the child can lean forward and touch their chest to their thighs, which is not safe. Examples include the Safeguard Go, Ride Safer Travel Vest (when used with a lap belt), and the EZ-On Y harness with RideRyte booster. In situations like these where the tether is the only thing holding the child's upper body back it is important to make sure that you do not exceed the weight limit of the tether anchor. Check your vehicle's owners manual for tether anchor weight limits. {mospagebreak title=If Your Restraint Doesn't Have LATCH}

What if my child restraint doesn't come with LATCH?

It is no longer possible to add a tether strap or a lower anchor strap to a child safety seat, if that seat did not come with the strap originally.

There are several reasons why your child safety seat may not have a lower anchor strap or tether strap.

- The seat is not required to have ANY lower anchor straps or tether straps. These types of seats, listed below, are not required to have ANY LATCH straps, but may come with the straps if the manufacturer decides to include them.

- Car beds for infants

- Vests and Harnesses

- Belt Positioning Booster Seats (where the child uses the vehicle lap-and-shoulder belt across him)

- Infant carriers sold WITH a base (do not have to have lower anchor straps on the CARRIER, since the base already has a lower anchor strap. Infant seats do not have a tether strap.)

- The seat is not required to have a tether strap.

- The seat may be old. Forward-facing child safety seats made before September 1, 1999 will NOT come with tether straps (or lower anchor straps).*

- Child safety seats that pass the 28 inch head excursion test without the tether are not required to come with a tether.

- All infant carriers and infant carriers with bases will have only a lower anchor strap.

- Belt-positioning booster seats made by Clek will have rigid lower anchor connectors and no tether strap.

You can't locate the top tether strap

- Unless the seat is an infant carrier or infant carrier base or a Clek booster, it probably has a tether strap that is hidden. Look carefully in the child safety seat's instruction manual to see where to find the tether strap.

- The tether strap may be in a plastic or fabric bag near the top of the child safety seat.

- The tether strap may be hooked onto a metal or plastic bar on the back or side of the child safety seat.

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The child safety seat has a tether strap but no lower anchor strap

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Child safety seats made before September 1, 2002 will not have lower anchor straps. These seats will have a tether

if they were produced after Sept. 1, 1999.*

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Vests and harnesses may have only the tether strap. For example, the RideSafer Travel Vest or the an EZ-On Y-Harness (used with the Ride Ryte Booster).

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You can't locate the lower anchor strap.

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Unless the seat is a vest or harness or made between Sept. 1, 1999 and Sept. 1, 2002, your seat probably has a lower anchor strap which is hidden. Look carefully in the instruction manual for help finding it.

Sometimes the lower anchor strap is stored underneath the fabric cushion (for Britax seats, lift up the fabric seat cover pad and look under where the child's bottom goes).

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Sometimes the hooks on the ends of the lower anchor strap are hiding in fabric pockets on the side of the child safety seat.

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Sometimes the hooks on the ends of the lower anchor straps are clipped to plastic bars on the side of the child safety seat (like on the Graco Snug Ride and Graco infant Safe Seat) or in nooks created for them in the child safety seat (like on the Chicco Key Fit or Peg Perego).

*Please note that most child safety seat manufacturers specify a 6 year lifespan for each child safety seat. Some may allow up to 7 years or 10 years. Check your seat for its expiration date, and do not use a seat after it has expired, no matter what sort of straps it has. {mospagebreak title=Where are the Lower Anchors?}

Where on my vehicle are the Lower Anchor LATCH components?

Reading your vehicle's instruction manual will tell you IF you have the lower anchors AND where to find the lower anchors. DO NOT ASSUME that you have found the lower anchors without reading the manual. We have seen many parents find flimsy pieces of metal (as thick as coat hanger wire) in the seat crack and incorrectly believe these were the lower anchors. Some parents have even secured their child safety seat to these pieces of metal, a mistake which would have very serious consequences in a crash.

Vehicles model year 2003 and newer are required to have lower anchors in at least two rear seating positions. While the vehicle manufacturers are allowed to put lower anchors in more than two rear-seating positions, most have not done so. In the back seat of most vehicles, the two side seats have lower anchors but the center does NOT have lower anchors. If the vehicle has no back seat or if the back seat is too small to safely fit a child safety seat (for example in pickup trucks or convertibles) AND the vehicle has an airbag on/off switch as ORIGINAL equipment, then one of the front seats must have lower anchors.

Looking at the back seat, you usually cannot see the lower anchors. They are usually hidden from view and are inside the vehicle seat crack, also called the seat bight. This is the part where the cushion for your back meets the cushion for your bottom. Some lower anchors are on the vehicle seat back, an inch or two above the bight, or on the seat bottom,

and inch or two in front of the bight. Most vehicle seats mark the location of the lower anchors using a small plastic button. Some buttons have a small image of a child safety seat on them--shown in the image on the right-- while others do not. Other vehicles use a small fabric tag on the seat just above the lower anchor that say "LATCH" or "ISOFIX." In some vehicles, you may need to lift up a fabric flap to access the lower anchors--this is common in Toyota and Lexus vehicles.) In others you must swing the lower anchors out (common in Mercedes) while in others you must remove a small piece of removable vehicle cushion or a small plastic cover.

Please note that where there is a designated LATCH position, the two lower anchors that make up a pair are spaced 11 inches (280 mm) apart from each other. {mospagebreak title=Where are the Tether Anchors?}

Where on my vehicle are the tether anchors?

Reading your vehicle's instruction manual will tell you IF you have tether anchors AND where to find the tether anchors. DO NOT ASSUME you have found the tether anchor without reading the manual, as the real anchors are VERY EASILY confused with other parts of the vehicle (like cargo hooks) that are not strong enough to hold the tether strap in a crash. Most cargo hooks are meant to hold about 20 pounds. A tether anchor is meant to hold several hundred pounds of force in a crash. Tether anchors are often hidden under plastic taps that you must flip up or remove.

Vehicles model year 2000 and newer must have tether anchors in at least three backseat positions. In the backseat of vehicles with only one row of seats in the back (sedans, small SUV's, hatchbacks, etc), all three positions in the backseat must have tether anchors. Vehicles that have more than 3 seats in the back, like large SUV's, minivans, etc, sometimes have tether anchors for more than 3 backseat positions. One exception is SUV's model year 2000 to 2004 that have only 3 backseat positions; these were required to have only 2 tether anchors, one for each side seat. While many did have the tether in the center, a significant number did not. A retrofit kit is available for some of these SUV's, so you can add a tether anchor to the center seat.

We have included a list, below, to indicate how many different places tether anchors can be found. This list is not all-inclusive--please check your vehicle owner's manual to be sure you have found the correct tether anchors.

- Convertibles: Not required to have tether anchors, although some provide them. When available, they are often for the front passenger seat, since the back seat (if present) is frequently too small for a child safety seat. If the back seat is large enough, the vehicle will usually have tether anchors from the rear seats.

- Hatchbacks: Often the tether anchors are on the back of the vehicle seat or on the back wall of the vehicle directly below the opening of the trunk door.

- Minivans: Tether anchors are usually located on the floor directly behind the vehicle seats, on the back of the vehicle seats, or underneath the seats. In some minivans the tether anchors for the third row seats are located on the rear door frame, either above or below the opening. Since minivans have more than 3 rear-seating positions, often some positions don't have tether anchors, since only 3 positions are required to have them. Sometimes the dealership can install tether anchors in positions where the anchors were not factory installed. Read your vehicle owners manual carefully to see if this is possible.

- Pick Up Trucks: If the truck has no back seat, has side facing jump seats, or is too small to safely fit a child safety seat,

then the front passenger seat usually has a tether anchor. In larger pickups, tether anchors are on the back wall of the cab below the rear window or behind the vehicle seat back. Sometimes the tether may be a loop of safety belt webbing. It is very important to read the vehicle's instruction manual as sometimes the tether strap takes a strange routing path (i.e. you have to pass the child safety seat's tether strap through one of the webbing loops and hook the tether hook onto a loop that is not the one directly behind the child safety seat.)

- Sedans: Usually tether anchors are on the shelf below the back windshield. Occasionally the anchors are in the trunk (some older Volvos).

- SUV's: Tether anchors are often located on the back of the backseat or on the floor in the cargo area directly behind the backseat. In some SUV's, the tether anchor is located on the rear door frame, either above or below the door opening. Since these vehicles often have more than 3 rear seating positions, but only 3 tether anchors are required, some seats may not come with tether anchors. Sometimes it's possible to have the dealership install anchors in some of the seating positions where they did not come factory installed. Read your owners manual to find out if this is possible.

- Wagons: Tether anchors usually located on the back of the backseat or on the floor in the cargo area directly behind the backseat. In some wagons, the tether anchor is located on the rear door frame, either above or below the opening.

What if my car doesn't come with anchors?

You can retrofit certain vehicles with lower anchors and tether anchors.

Lower anchors: Retrofitting is available for a few Audi and Volkswagen vehicles ONLY.

- Audi: Will install a LATCH system (both lower and upper anchors) free of charge for model years 1999 and up in the following vehicles: A4, A6, A8, S8, and model year 2001 and up Allroad Quattro. LATCH retrofit kits are not available for the TT models or the Audi A8L. Audi will provide and install tether anchors in model year 1993-1999 Audis, but free service is discontinued.

- Volkswagen: Will install a LATCH system (upper and lower anchors) free of charge for Passat models year 1999-2002. Free service is discontinued. Will install tether anchors on model year 1993-1999 vehicles, but free service is discontinued.

Tethers: Tether anchors can be added to most vehicles manufactured after 1989. Many of these vehicles have the holes pre-drilled in the vehicle, often with the nut in place, so that retrofitting the tether anchor is as simple as ordering the part and screwing in a bolt.

Ford, Chrysler, and GM will retrofit for FREE at least one tether anchor in their vehicles which did not come with tether anchors factory-installed (assuming that the vehicle is able to be retrofitted).

Vehicle manufacturers with a single part number for all tether anchor kits for all of their vehicles (list price included when available--installation may be extra).

- Acura: 82410-SE3-C01, Plate Assembly/Anchor plate and mounting hardware, \$13
- Honda: 82410-SE3-C01, Plate Assembly/Anchor plate and mounting hardware, \$13
- Infiniti: 88894-89900, (may need 8mm x 1.25 bolt)
- Lexus: 73709-20010, Tether anchor kit \$10
- Nissan: 88894-89900, (may need 8mm x 1.25 bolt)
- Toyota: 73709-12010, Bracket Sub-Assembly, Tether Anchor \$12

{mospagebreak title=Vehicles with Center Anchors}

Can I use the lower anchors to install a car seat in the center position?

Why is this even a question? Remember that vehicles must have tether anchors in THREE backseat positions and lower anchors in TWO backseat positions. That usually leaves the center seat as the odd-man out--meaning it has a tether anchor but no lower anchors. A clever person might ask "Can't I just use the two inner lower anchors from the side seats to secure a child safety seat in the center?" This is one of the most common questions we get asked. While it is usually physically possible, it is usually NOT recommended by the vehicle manufacturer and may be unsafe.

Why is it unsafe? The distance between the inner-most lower anchors is usually not the standard 11.02 inches found between the lower anchors on the side seats. Many child safety seat manufacturers do NOT want their seats secured to lower anchors that are wider or narrower than the standard 11.02 inches. A wider spacing may allow the child safety seat to move too much side-to-side in a crash.

There are certain situations when a child safety seat CAN be safely secured in the center using the lower anchors.

- The vehicle has a designated LATCH position in the center of the back seat. This means it has lower anchors that are 11 inches apart and specifically intended for use in the center seat. Examples include the Acura MDX (2007 and newer), the Honda CRV (2007 and newer).
- The vehicle AND the child safety seat manufacturer BOTH allow you to use lower anchors that are spaced wider or narrower than 11 inches. Please check your vehicle and child safety seat owners manuals to see if yours allow this.

Which child safety seat manufacturers DO allow you to use lower anchors that are spaced wider or narrower than 11 inches apart?

- Britax: Spacing can be from 11 to 20 inches, as long as the vehicle manufacturer also permits this.
- Chicco: Spacing must be 11 inches
- Cosco/Dorel (includes Maxi Cosi): any spacing, as long as vehicle manufacturer clearly permits.
- Fisher Price: Spacing can be from 11 to 20 inches, as long as vehicle manufacturer clearly permits.
- Orbit Baby: Spacing from 11 to 20 inches, as long as vehicle manufacturer permits.

- Recaro: Any spacing, as long as vehicle manufacturer permits.
- Safeguard: Spacing from 11 to 20 inches, as long as vehicle manufacturer permits.
- Snug Seat Hippo: Spacing from 11 to 20 inches, as long as vehicle manufacturer permits
- Triple Play (Sit 'N' Stroll): Spacing can be over 11 inches, as long as vehicle manufacturer permits.

As you can see, the vehicle manufacturer **MUST** specifically allow you to use a narrower or wider spacing even if the child safety seat manufacturer allows the unusual spacing.

Which vehicles allow you to use lower anchors that are narrower or wider than 11 inches?

Unfortunately, most vehicles **DO NOT** allow you to use lower anchors that are spaced wider or narrower than 11 inches.

IF YOUR VEHICLE IS MADE BY ONE OF THE MANUFACTURERS LISTED BELOW, YOU CANNOT INSTALL YOUR CHILD SAFETY SEAT USING THE LOWER ANCHORS IN THE CENTER OF THE BACKSEAT. This is true even if your child safety seat is one that allows you to use lower anchors that are wider or narrower than 11 inches.

- Acura (except 07 RDX and MDX)
- BMW
- Daewoo
- Honda (except 3rd row center of 05-07 Odyssey, 06-08 Ridgeline, and 07 CRV)
- Infiniti
- Isuzu
- Jaguar
- Kia
- Land Rover
- Lexus
- Mercedes-Benz
- Mini
- Nissan
- Porsche
- Saab
- Scion
- Subaru
- Toyota (except Sequoia, Sienna, and LandCruiser which have designated LATCH systems in the center of SOM)
- Volkswagen
- Volvo

{mospagebreak title=Loosening LATCH straps}

Loosening Lower Anchor and Tether Straps

Many people find it harder to take the child safety seat out than to put it in when using LATCH. If you follow these three steps, you should have an easier time removing your child safety seat from your vehicle.

Step 1: Before you start

- Always put pressure on the child safety seat (a knee in the seat works wonders) when trying to loosen the lower anchor strap.
- If your vehicle seat back reclines (like in a lot of minivans and SUVs), recline the seat back before trying to loosen or remove the lower anchor strap.

Step 2: Always loosen the strap before you disconnect the connectors

- For push-button lower anchor connectors (these are made of black plastic and look a little like staplers), ALWAYS loosen the latch strap before attempting to disconnect the connectors. Put your index and middle fingers on the bottom of the connector, and your palm on the silver or grey bar that runs along the top of the connector. Squeeze the silver or grey bar into the connector and move it away from the car seat. This should loosen the strap.
- For A-loc attachments, ALWAYS loosen the latch strap before attempting to disconnect the connectors. Flip up the metal tab so that it makes an L-shape with the strap (it should be flat on top of the strap when you start). Use your palm to press down really hard in order to flip the tab---it's usually HARD.

Step 3: Disconnect the hooks

- For push-button lower anchor connectors, simply press the red button on the end of the hook device and pull the device off of the lower anchor.
- For A-loc hooks, use your index finger to push the metal on the underside of the hook. Then, push the hook toward the back of the car as far as it will go. Turn it 90 degrees. Then pull the hook towards you.

Don't forget to detach the tether strap also!

{mospagebreak title=Common LATCH mistakes}

Common LATCH Mistakes

We've compiled a list of the most common mistakes we've seen parents make while trying to secure their child safety seats using LATCH. Below each mistake is an explanation and how you can fix it.

- Your child safety seat is not installed tightly enough.
- The lower anchor strap is routed through the wrong area of your child safety seat.

- Your seat is installed forward-facing but you are not using the tether strap.
- You used the lower anchors to install a child safety seat in the center of your backseat, but your vehicle and/or your child safety seat do not permit this.
- You have used the lower anchors to install a child safety seat when it is in booster mode--where the child is sitting on the seat and using the vehicle seat belt across them.
- You have installed your child safety seat using the lower anchors, but your child weighs more than 48 pounds.

Problem: Your child safety seat is not installed tightly enough.

Explanation: A loosely installed seat may move too much in a crash

Solution: Make sure both the lower anchor strap(s) and the tether strap are pulled as tightly as possible. The child safety seat should move less than one inch in any direction when properly installed.

Problem: The lower anchor strap is routed through the wrong area of your child safety seat.

Explanation: Convertible child safety seats usually have different belt paths for the lower anchor strap. Which path to use depends on whether you are installing the seat rear-facing or forward-facing.

- Rear-facing: lower anchor strap runs through belt path usually under child's legs.
- Forward-facing: lower anchor strap runs through belt path usually located behind child's back.

You must manually change the path the lower anchor strap is taking if it is set up incorrectly for the way you want to install your car seat. If you use the wrong belt path, the seat may not remain secured to the vehicle in a crash.

Solution: Examine your child safety seat and find the lower anchor strap. Read the owners manual and look for stickers or labels on the side of the child safety seat which indicate which belt path is correct for the way you want to install your seat. If you need to switch the way the lower anchor strap is routed, make sure that you do not get it tangled with other straps.

Problem: Your seat is installed forward-facing but you are not using the tether strap.

Explanation: It is safer to use the tether strap for all forward-facing child safety seats. It does not matter whether you are using the lower anchors or the vehicle's safety belt to install the seat--you can always use the tether also.

Solution: Attach the tether strap to the tether anchor and tighten as much as possible.

Problem: You used the lower anchors to install a child safety seat in the center of your backseat, but your vehicle and/or your child safety seat do not permit this.

Explanation: Please read Vehicles With Center Anchors for a detailed explanation of this mistake.

Solution: Attach the child safety seat in the center position using the vehicle's safety belt or attach the child safety seat on the side positions using the lower anchors. Remember to use the top tether!

Problem: You have used the lower anchors to install a child safety seat when it is in booster mode--where the child is sitting on the seat and using the vehicle seat belt across them.

Explanation: Most child safety seats do not permit this.

Solution: Read your child safety seat's instruction manual to determine whether it is safe for you to use the lower anchors or top tether to attach the child safety seat to the vehicle when in booster mode. Some seats, like the Clek booster and the Safeguard Go, permit this, but most do not.

Problem: You have installed your child safety seat using the lower anchors, but your child weighs more than 48 pounds.

Explanation: Most child safety seats do not recommend using the lower anchors when kids weigh more than 48 pounds. Some have a limit of 40 pounds, while other go to 60 pounds. Most vehicles recommend that you do NOT use the lower anchors to install a child safety seat for a child over 40 pounds.

Since the lower anchors bear the brunt of the force in a crash, concern for their weight limit is especially important. They are designed to restrain the weight of a child safety seat plus the weight of a small child. The vehicle's safety belt, which is stronger because it is designed to restrain large adults, is a good substitute for the lower anchors when securing a child safety seat used by a heavier child.

Solution: If you have a child safety seat that had a 5 point harness for kids weighing more than 40 pounds, please read your child safety seat owners manual to see what the maximum weight limit is for the lower anchors. Once your child is above that weight limit, use the vehicle's safety belt to secure the child safety seat. Do not use the lower anchors. And remember to ALWAYS continue to use the tether.