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# 4X4 LIFT KIT BUYER'S GUIDE

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Finding a good lift kit for your vehicle is like choosing a hunting dog or a framed backpack - it's often a complex process that you *really* don't want to rush. If you buy the wrong lift, after all, you just might find out that you've reduced your vehicle's capabilities, or ruined your vehicle's ride, or wasted a lot of money on functionality you don't need.

What follows is the official Olathe Toyota Parts Center Lift Kit Buyers' Guide. While we do not recommend any specific brands or types of kits, we do provide in-depth information about each type of kit. We'll explain how each kit works, review the pros and cons, and offer some suggestions for which type of kit to buy. We'll start our guide by reviewing some common lift kit misconceptions.

# Four Common Misconceptions about Lift Kits

The Internet is literally brimming with bogus information about lift kits, much of which stems from some fundamental lift kit misunderstanding. Here are four common misconceptions about lift kits:

1. Contrary to popular belief, **many popular lift kits and leveling kits do not get increased ground clearance.** Bracket lifts and spacer lifts are very popular, for example, and neither increases ground clearance in any appreciable way. In fact, bracket lift kits actually reduce your vehicle's ground clearance, at least until you fit the vehicle with oversized tires.

2. For many lift kits, **it's installing a larger set of tires that increases ground clearance.** If you can replace a set of 33" tall tires with 37" tall tires, for example, you can add about 2" of ground clearance.

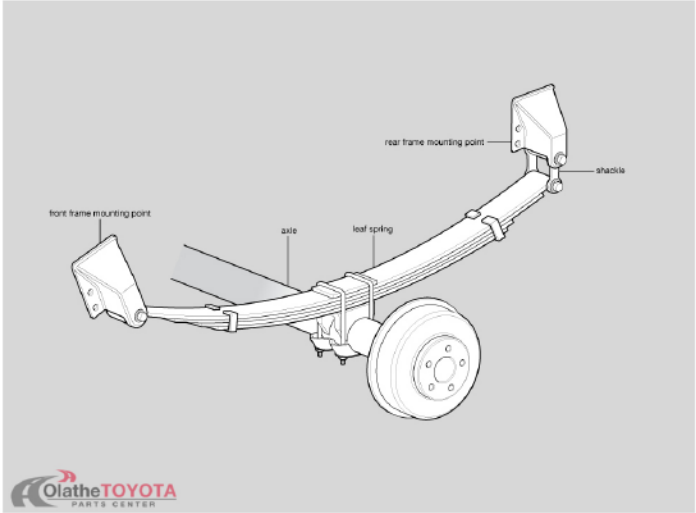
3. There are a lot of differing opinions about the durability of various types of lift and leveling kits, but it's essential to remember that **lift kit durability is directly related to frequency and type of use.** A serious and regular off-roader who pushes their vehicle hard will be far more likely to deal with durability problems than someone owning a "mall cruiser," i.e. a 4x4 that rarely sees the trail. Yet many people make bold, sweeping statements about the durability of spacer kits without addressing the fact that durability and use are closely related.

4. **Most lift kits are not for hardcore off-road use.** Many people say that kit "X" isn't good for serious off-road use, and most of the time these people are correct. Most of the lift kits consumers can buy are not designed for off-road racing. If they were, off-road racers would just bolt affordable after-market kits onto otherwise stock vehicles and race them. If you want a kit that will stand up to racing, you need to invest thousands of dollars in a kit that essentially replaces the factory suspension system. There's no such thing as a $2,000 kit that will turn your late model 4x4 into a Baja race vehicle.

## NOTE: Lift Kits Are Sometimes Different Front and Rear

For most vehicles, there's a difference in the type of lift kit available for the front end of your vehicle than the rear. On most pickup trucks, for example, the front end has an independent coil-based suspension while the rear end has a leaf spring and solid axle. Thus, there's a different type of lift for the front end of your truck than for the rear. A newer Jeep Wrangler, on the other hand, has independent suspension at all four wheels.

The point? We're going to describe each lift kit by type below, and it's important to understand that your kit may actually include two different types of lifts.




# The Different Types of Lift Kits, With Pros and Cons For Each

There are quite a few different types of lift kits, but we've broken down the options in alphabetical order:

1. Body lifts
2. Drop bracket lifts
3. Knuckle lifts
4. Shackle lifts
5. Spacer lifts
6. Spring replacement lifts
7. Suspension replacement/redesign kits, which includes long arm kits, solid axle swap kits, most long travel kits, etc.

There are also "combo" lift kits, which combine two or three of the types listed to achieve dramatic changes in ride height. We'll discuss these kits as well. Finally, there are also spindle lift kits, but these are for 2WD. Since this is a 4x4 lift kit guide, these will not be discussed.




***Attributed to Anthony dela Merced & Dropped Object Productions.***

## Body Lift Kits – Pros and Cons

A body lift kit is designed to increase the space between the vehicle body and the frame/chassis. Using a combination of bushings, spacers, and bolts, a body lift is very much like putting your 4x4 up on very short stilts. You're not changing the vehicle's suspension when you install a body lift; you're just moving the body upwards. However, since you're not changing the suspension when you install a body lift, a body lift kit does not increase ground clearance. A body lift will, however, make it easier to mount oversized tires on your 4x4.

**Body Lift Kit Pros:**

- *Part Affordability.* Body lifts are generally very inexpensive, at least as far as parts are concerned. Installation is another matter, however, as they're usually labor intensive. If you're planning on installing your own kit and don't mind doing some wrenching, a body lift is a relatively inexpensive way to go.
- *The suspension is untouched.* If you're looking for a little bit of lift to accommodate some bigger tires, a body lift isn't a bad way to go. Your vehicle's basic ride and handling won't change much when installing a body lift (the vehicle center of gravity raises somewhat, but not as much it may seem as the frame accounts for a lot of vehicle mass), so your vehicle's stability control system (if equipped) will function just fine.
- *Body lifts are easy to combine with other lift types.* If you install a 2" body lift along with a 3" spacer lift, you've got 5" of lift for a fraction of the cost of a similarly sized spring replacement kit, drop bracket kit, etc.

**Body Lift Kit Cons:**

- *Kit quality can be hit or miss.* A well designed body lift kit with high quality components is a perfectly viable lift kit option. A cheapo body lift that's basically a bag full of spacers is hard to install and often requires fabrication to get installed.
- *Installation can be hard.* Body lifts can take half a day, or they can kill an entire weekend. If you can get a buddy to help with install, do it.

**Body Lift Kit Availability:** Body lifts are almost universally available. In fact, for some vehicles, body lifts are the only lift kit option available.

## Drop Bracket Kits – Pros and Cons

Essentially, drop brackets add a new section of frame to the bottom of your truck's existing frame. A new crossmember is added to the vehicle's subframe, and then everything - the differential, the control arms, etc. - are mounted to this new subframe in one way or another. Typically, drop bracket kits are available in heights of 5-6".

**Drop Bracket Kit Pros:**

- *Factory-like ride.* When properly and carefully designed, drop bracket kits retain a vehicle's ride. While the handling is changed due to the increased height of the vehicle's center of gravity, the ride is very close to original.
- *Most geometry close to factory.* Extreme CV joint angles lead to premature replacement, and many lift kits increase the CV angles to their limits. Same goes for driveshaft angles - the further away from factory, the more U-joint wear and the higher the odds of driveshaft failure (not to mention, increased driveshaft angles often lead to vibrations). Most of the geometry stays the same with a drop bracket kit.

**Drop Bracket Kit Cons:**

- *Wonky steering setup.* In order to get the steering system to work with the new subframe, drop bracket kits include new steering linkage that's not very confidence inspiring. NOTE: Some owners report problems with steering performance, but these problems may be just as much about wear and tear as kit design.
- *Decreased strength and durability.* Drop bracket kits often require cutting the factory frame rails, adding holes to the factory frame and mounting brackets in such a way that they're innately vulnerable to damage. This is not to say that drop bracket kits are weak, but they are weaker than the stock suspension system (all things being equal).
- *Drop brackets are usually permanent.* If you install a drop bracket kit, there's no going back to stock. This isn't a huge negative, but it's worth pointing out.
- *Installation time/costs can be great.* Drop bracket kits include lots of expensive parts and require hours of work to install. If you're doing your own installation, you'll probably need a weekend to get it all done...and that's assuming you have the right tools (many people do not).

**Drop Bracket Kit Availability:** Drop bracket kits aren't as popular now as they were a few years ago, as the costs of casting have fallen enough to make knuckle lift kits more popular. Still, you can find drop bracket kits for most pickup trucks and many popular SUVs, and, with their declining popularity, you might be able to find a good deal.

# Knuckle Lift Kits – Pros and Cons

Knuckle lift kits basically move the lower control arms downward to increase vehicle ride height. This is accomplished by lengthening the steering knuckle, adding brackets to mount the lower control arm a few inches below the frame, and dropping the differential to preserve the factory CV angles as much as possible. Because knuckle lift kits do not move the upper control arm, the factory steering system is essentially unchanged.

Knuckle lifts kits are available in heights from 4" to 6", and many kit manufacturers will offer new upper and lower control arms along with their kits to get even larger amounts of lift (upwards of 8").

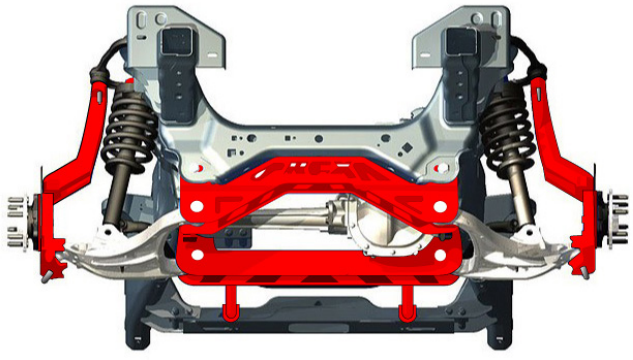
**Knuckle Lift Kit Pros:**

- *Factory steering is unchanged.* Many lifted vehicles have steering problems. While some of these problems are almost certainly a result of the stresses caused by oversized wheels and tires, off-road use, etc., they can be exacerbated by lift kit design. By preserving the factory steering linkage, knuckle lifts lessen the risk of steering problems.
- *Relatively easy installation compared to kits with similar lift.* If you compare a drop bracket kit to a knuckle lift kit, the amount of time it takes to install a knuckle lift is usually about half. This makes for lower cost installation if you're having a shop do the work or a less complicated project if you're doing the work yourself.

**Knuckle Lift Kit Cons:**

- *The vehicle track (width between tires) is increased.* In order to preserve factory angles, the wheels must be pushed out and away from the vehicle when the steering knuckle is lengthened. On many pickups, this makes the front wheels stick out 1-2" further than the rear wheels. Many truck owners compensate by adding spacers to their rear wheels to make them stick out the same amount, but this is not an ideal modification (wheel spacers reduce durability).
- *Wheel and tire fitment can be more difficult.* While wheel and tire fitment is always important, it's particularly important when installing a knuckle lift. The increased track can lead to issues with wheel rub at full steering lock, so wheel size must be precise.

**Knuckle Lift Kit Availability -** Knuckle lifts have become very popular the last 5 years or so, and are available on most popular 4WDs. However, they're harder to come by on less popular 4WDs or older vehicles. Knuckle kits are quickly becoming the popular choice for moderate-sized lifts (4-6"), but they're not as established as other kit types.



# Shackle Lift Kits – Pros and Cons

A shackle is the piece of hardware that connects a leaf spring to a vehicle frame. Most leaf springs are attached directly to the frame on one end and attached to a shackle on the other, with the shackle allowing for back and forth movement as the leaf spring flexes. A lift shackle basically increases the distance between the frame and the leaf, which moves the axle downwards and increases ride height. For every 1" of increased shackle length, you'll gain 0.5" of ride height.

Shackle lifts are only available on vehicles with leaf springs, obviously, which means they're available on older Jeeps and on the rear axles of most modern trucks.

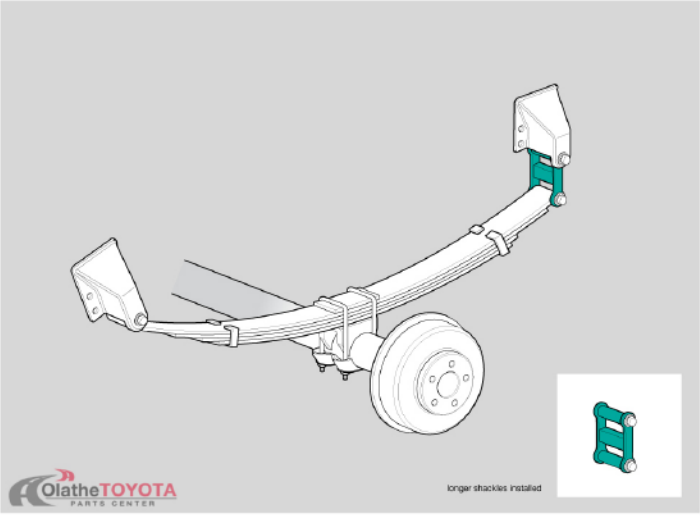
**Shackle Lift Pros:**

- *Low cost.* A new set of shackles can be as little $50, but with replacement bushings (which are a very good idea), the cost is usually closer to a couple hundred dollars.

**Shackle Lift Cons:**

- *Limited height.* Lift shackles can't add much more than 2" of ride height without having problems with durability. For many pickup trucks - where the rear of the truck is higher than the front of the truck from the factory - this is OK. But older Jeep owners might not be satisfied with the moderate amount of lift available.
- *Axle movement is increased and location is changed.* When you install lift shackles, you're allowing the axles to move laterally far more than anticipated by the vehicle manufacturer, which can lead to shackle mount failure. You're also changing the position of the axle and, as a result, the angle of the pinion. Small changes aren't a big deal, but the longer the shackles get, the more likely you are to have problems with vibration.

**Shackle Lift Availability -** Shackle lifts are only available on vehicles that feature leaf springs, and in the case of pickups with rear leafs, shackles are often less popular than blocks (which are cheaper and perhaps more durable). However, if you're only looking for a couple inches of lift on an older vehicle with leafs, lift shackles are probably available.



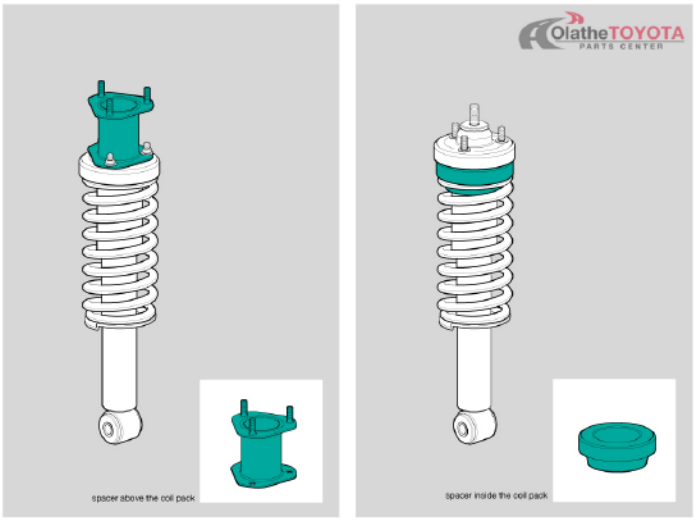
# Spacer Lift Kits – Pros and Cons

The term "spacer lift" encompasses both coil spacers (above and internal) and blocks (which are used to increase the distance between a vehicle axle and the leaf springs). Spacer lift kits are affordable, popular, and very common. They're also frequently lambasted by off-road enthusiasts, to the point where it's hard to have a rational discussion about them. Still, spacer kits are perfectly fine for vehicle owners who are looking for a very moderate amount of lift and who don't intend to push their truck particularly hard. Here's a quick breakdown of each spacer kit type. Remember, most spacer lift kits can only add 1.5"-3" of lift, though blocks are sometimes used to add 4" of lift.

## ABOVE COIL SPACER KITS

This is a spacer that's designed to increase the length of the coil assembly, increasing the distance between the upper control arm and the wheel hub and raising the ride height. Typically, above coil kits offer 1.5"-3" of lift. Above coil kits are sometimes difficult to install (their increased length makes reassembling the front suspension tough without a pry bar), but they're popular with people looking for a small amount of lift they can install at home with basic tools (installing an above coil spacer doesn't require the use of a spring compressor). They're also very affordable.

The problem with above-coil spacer kits is that they can lead to suspension damage at extremes. If the suspension is fully compressed, for example, the factory bump stops will be insufficient. At full droop, the geometry of the CV axles can be beyond the design limit, leading to premature wear or even failure. There can also be contact between the spacer and the upper control arm at full droop, potentially causing damage to the arm. However, if the vehicle you're lifting is being driven mostly on pavement and the suspension is rarely being subjected to aggressive cycling (i.e., you're not really pushing your vehicle off-road), the possibility for damage is small.



## IN-COIL SPACER KITS

In-coil kits don't increase the coil assembly length to increase ride height. Instead, they increase the compression of the factory coil spring by reducing the amount of space in the coil pack. This reduction of space for the coil spring can be known as "spring preload," but that is an incorrect term because that would indicate that the springs should be stiffer after installation. This is mostly not true - spring rates aren't linear - but the difference isn't substantial if the amount of compression is small.

In-coil spacers essentially preserve the factory geometry of the CV axles, steering system, etc., or at least ensure that the geometry stays within an acceptable range. If the lift is much larger than 1.5" however, it's suggested to invest in a differential drop kit but not necessarily required. See Are Differential Drop Kits Necessary? later in this guide.

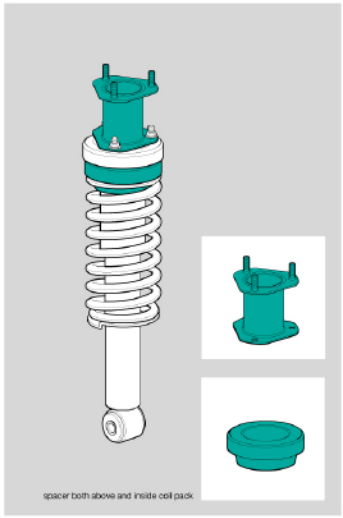
In terms of cost, in-coil spacers are no more or less expensive than above coil spacers. However, installing a spacer inside the coil pack requires access to a spring compressor. Since spring compression and decompression can be dangerous, it's best to either use a professional grade compressor or pay your local repair shop to use theirs.

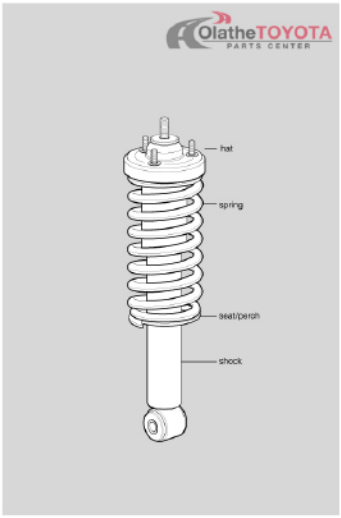
Finally, if in-coil kits have a downside, it's that they can reduce the quality of your vehicle's ride. Spring rebound rates aren't exactly linear, so by increasing spring compression, you change the rebound rate of the spring. Additionally, because the space for the spring inside the coil back is reduced, the 'up-travel' of the suspension system is reduced. When you reduce the up-travel, you are more likely to hit the bump stops when off-roading. If you hit the bump stops regularly, you can do a lot of damage to your vehicle. Hence, in-coil spacer kits aren't a good choice for serious off-roading (but neither are above coil spacers or any other kind of spacer kit).

## COMBINATION IN-COIL AND ABOVE COIL SPACER KITS

Some kit manufacturers combine in-coil and above-coil spacers to achieve 3"-4" of vehicle lift. This is pushing the coil spacer to its limit and can lead to all sorts of problems if the vehicle is used for aggressive off-roading. That's because these combination kits have all the downsides of in-coil and above coil spacers, with the only upside being that they can offer more ride height than an in-coil or above coil spacer alone.

Still, if combined with a differential drop kit, a combination in-coil/above coil spacer is a reasonable option for 4WD owners looking for some lift, provided they are casual off-roader drivers only. It would be a mistake to invest in a 3"-4" spacer lift kit and then take the vehicle desert racing...damage is all but assured.



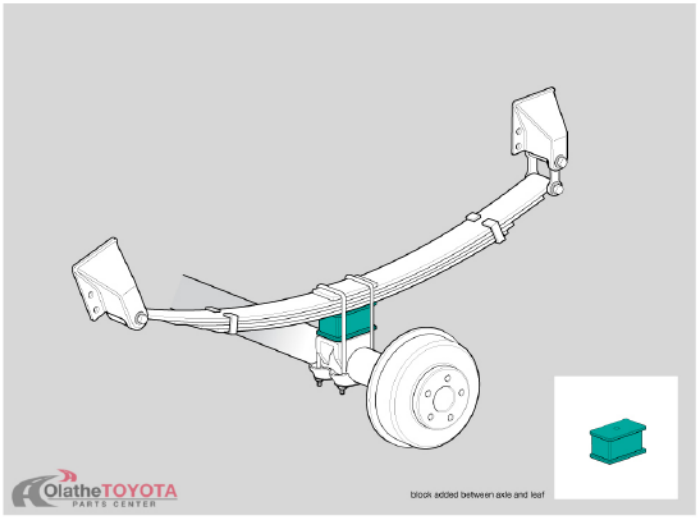
## BLOCK SPACER KITS

Blocks are used as spacers on leaf springs, placed between the spring and the axle. The block is combined with extra long ubolts (which are hopefully very high quality), and provided the block height doesn't exceed 4", it's a reasonable mechanism for lifting most vehicles. In fact, blocks are used by GM and Ford on their HD trucks to achieve the proper ride height with no ill effects.

However, once blocks get over a certain height (4", generally speaking), a phenomenon known as axle wrap becomes a serious concern. Basically, the leaf spring can deflect in an unexpected way when the torque on the axle is sufficiently large. This wrap (one side of the leaf flips upside down, curving downwards instead of upwards) can lead to breakage. The larger the torque, the greater the concern. Therefore, vehicles with exceptionally strong engines or vehicles placed in very challenging circumstances (like aggressive off-road driving) should not use block spacers to achieve lift, at least not without upgrading the leaf springs to be stronger and more resistant to axle wrap.

But for vehicles that are used in fairly normal ways (including off-roading), blocks are a common lift kit mechanism. They can be found on most kits that offer less than 6" of lift.

*NOTE:* Blocks should never be combined with other blocks...stacking two 2" blocks is not at all the same as a single 4" block. Stacked blocks will fail. It's not a question of "if", but "when." DO NOT stack blocks.




**Spacer Lift Kit Pros:**

- *Low cost.* Spacers can be made of aluminum, steel, or even reinforced plastic. A very small spacer lift kit - like a 1.5" front-end lift kit (aka leveling kit) - can cost as little as $100. A larger 3"-4" spacer lift kit can cost as little as $300, often times including a differential drop kit.
- *Simple install.* Most spacer lifts can be installed with basic tools. You don't necessarily need an impact wrench or vehicle lift to complete the installation (but it definitely makes your life easier if you have these things).

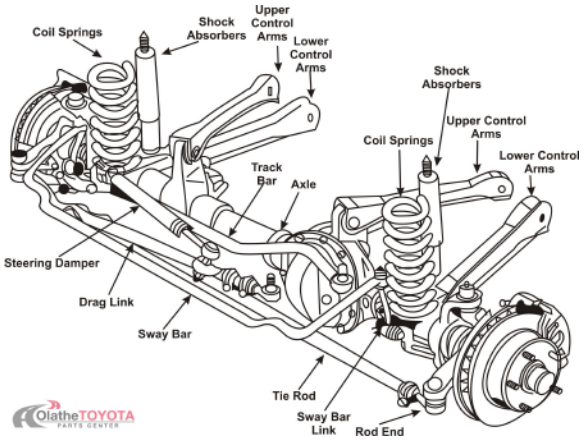
**Spacer Lift Kit Cons:**

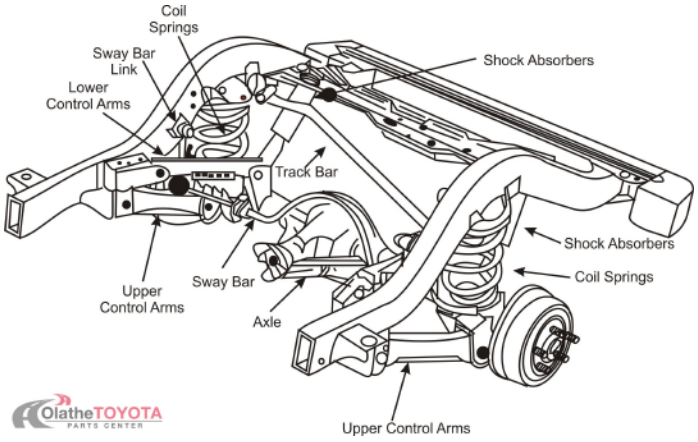
- *Durability.* Almost all lift kits reduce the durability of your vehicle compared to the factory suspension system. However, spacer lifts (particularly coil spacers that add more than 2" or blocks that add more than 4") can lead to all sorts of problems if you push them hard.
- *Loss of suspension travel (coil spacers).* Coil spacers reduce suspension travel either by artificially limiting down travel by reducing space for the spring to compress, or decreasing down travel by colliding with the above-coil spacer hitting the upper control arms before full droop.
- *Increased risk of axle wrap (blocks).* Axle wrap isn't terribly common (at least not on vehicles driven in normal conditions), but the bigger the block, the greater the risk.

In summary, small spacer lifts (1.5" or 2") are great for vehicle owners who are trying to add some upgraded tires without dramatically upsetting their factory suspension. However, when spacer lifts are stretched to their furthest limit (3"+) they can become a source of trouble on trucks that see regular off-road use. At the very least, larger spacer kits should be combined with differential drop kits, assuming CV axle wear is a concern. See Are Differential Drop Kits Necessary? for more info.

## Spring Replacement Lift Kits – Pros And Cons

Replacing your vehicle's coil springs and/or leaf springs is an ideal way to increase ride height, especially if you're looking for a moderate amount of lift (1.5"-3") that preserves your vehicle's suspension geometry. New springs can be drop-in replacements (often the case with leafs) or they can be part of a new coil pack that includes a new spring perch (usually the case with coils). Most spring replacements will require new shocks and will cost considerably more than simple spacer or body lift kits. Spring replacement kits aren't as popular as knuckle lift kits or drop bracket kits (spring replacements often cost the same amount as kits offering twice the lift), but they're extremely popular with people who are trying to maximize suspension travel and preserve their vehicle's factory suspension dynamics and durability.



**Spring Replacement Lift Kit Pros:**

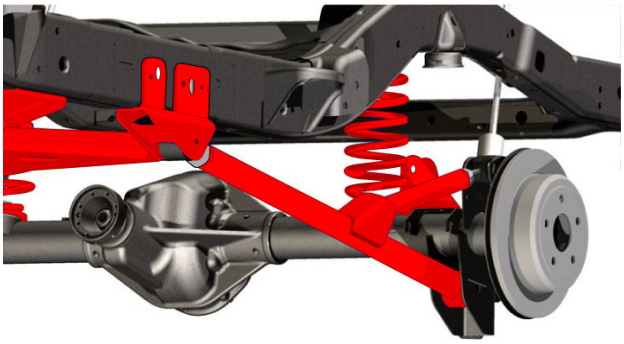
- *Increased travel.* Travel is extraordinarily valuable off-road. It gives you more cushion to absorb impacts, and it allows for greater articulation (and traction) in extreme situations. Most lift kits reduce travel or leave it unchanged, so this is a big advantage of spring replacement kits.
- *Finer suspension tuning.* Many quality replacement springs are designed to be paired with a specific set of shocks, allowing for fine suspension tuning that's hard for most lift kits to match.
- *Factory suspension geometry is mostly preserved.* While there will be some small changes to the factory suspension geometry, most of these changes are small enough to be inconsequential in terms of durability and drivability. A spring replacement kit is one of a few lift kit options that doesn't appreciably reduce vehicle durability.
- *Increased ground clearance.* Knuckle kits, drop bracket kits, and spacer lifts with differential drops all reduce ground clearance until you mount oversized tires. Spring replacement kits increase ground clearance, even if you stick with factory tires. Of course, an additional 1-2" of ride height allows for larger tires, further increasing ground clearance. Depending on your setup, you may be able to add more ground clearance with a 2" spring replacement kit than you can with a 6" drop bracket kit, knuckle lift, etc.

**Spring Replacement Lift Kit Cons:**

- *Cost.* Spring replacement kits aren't exactly cheap. A quality set of two replacement coils can easily cost $1,000 (often more), and replacement leaf springs can run $700-$1,000 a pair. The total cost of replacing a vehicle's springs is on par with the cost of a much larger knuckle lift or drop bracket kit, which is part of the reason they're not as popular. But as we explain, bigger isn't always better.
- *Ride quality can be reduced.* Choosing the right set of replacement springs - and right set of shocks - can give a vehicle a factory-like ride. But choose the wrong set of springs and you'll end up with a vehicle that rides like a milk wagon. Generally speaking, do not buy heavy duty springs unless you add weight to your vehicle (steel bumpers, winches, etc.) to justify the 'heavy duty' spring rating.

## Suspension Replacement and Redesign Lift Kits

We're getting to the bottom of our lift kit guide, but kits that replace or essentially redesign the factory suspension belong at the top of any serious off roader's shopping list. Long arm and long travel suspension kits both qualify as suspension replacement/redesign kits, as they usually include new control arms, a variety of upgraded components, and they've been carefully designed to increase a vehicle's ride height without sacrificing durability or performance. Typically, vehicle owners who are serious about racing, rock crawling, or entering various off-road competitions will invest in a long travel kit, long arm kit, solid axle swap, or custom designed lift kit. Depending on the kit you choose, there may be some trade-offs, but we can't honestly call these "negatives." Likewise, these complete suspension replacement/redesign setups are nothing but positive. So, instead of offering a list of pros and cons, we'll simply say that the parts and upgraded shocks you'll need for these top-of-the-line kits can cost thousands of dollars (some over $10,000), with thousands more in installation costs (and no, you typically don't install these types of kits yourself unless you've got ample experience). But to paraphrase the movie character Ferris Bueller, "if you have the means, we highly recommend these types of kits."



*Long Arm Lift Kit*

# Combining Multiple Types of Suspension Kits

It's not a problem to get anywhere from 2" to 6" of lift installing a single lift kit. However, if you want to get more than 6" of lift (or if you want to get 6" of lift on a budget), you can combine various types of lift kits. The key bit of advice is that you can never combine two kits of the same type. Otherwise...

- Body kits can be combined with any other type of kit. Since it's easy to find 1" or 2" body lift kits for most vehicle types, it's easy to combine a 2" body lift with a simple 1.5"-3" spacer lift to obtain 3"-5" of lift on a budget. All you need are tools, time, a few hundred bucks, and a budget for wheels and tires.
- Spacer kits can technically be combined with drop bracket kits or replacement spring kits, but no one recommends it. You won't find a lift kit manufacturer that recommends combining spacers with any other type of kit, in fact, so we won't recommend it either. From wonky suspension geometry that causes unpredictable behavior to increased wear and tear on CVs, spacers should not be combined.
- Replacement spring lift kits are often combined with knuckle lifts and/or drop bracket kits and/or upgraded control arms to reach 6"+ of lift. However, designing these combinations usually requires some insider info...speak to the company that builds your upgraded coilovers about which control arms to buy, or knuckle lift, etc.
- In the history of the automobile, shackles have been combined with blocks to lift vehicles riding on leaf springs. However, no one considers this combination to be safe or durable.
- As mentioned in the section about coil kits, in-coil and above coil spacers are often combined to achieve 3" of lift. However, these combinations must be carefully designed. It would be a mistake to combine two different kinds of 1.5" spacer lift kits to get to 3".

Summing up, it's OK to combine body kit lifts with all of the above, and never OK to combine spacer lift kits with any other kind of kit besides a body lift.




*Attributed to Anthony dela Merced & Dropped Object Productions*

# Which Lift Is Best? The Debate No One Needs To Have

4x4 vehicle forums are plagued by newbs asking "which lift kit is best?" and well-intentioned - but often ignorant - enthusiasts passionately arguing for one type of kit over another. Don't fall into that trap. Instead, ask yourself these questions:

1. **Am I primarily concerned with looks or capability?** If capability is the answer, invest in a spring replacement kit or total suspension replacement/redesign kit and don't look back. Just do what your budget allows, get a good set of oversized tires, and attack the trails. You won't have the tallest vehicle in the parking lot, but you'll have more ground clearance and suspension travel than most of the lifted vehicles you'll see.

2. **If it's looks that you're after, how big do you want to go?** 5"-6" of lift is available with most knuckle or drop bracket lifts, and often times that's enough lift to mount 35" or even 37" tires. If you bolt on a body kit, you can usually get to 9" of lift (and 38.5" or 39.5" tires) with ease. You'll have to work hard to find a vehicle taller than yours, but you'll sacrifice ride, handling, and off road ability to do it...if you don't mind that, then go for it.

3. **If you're on a budget and not too concerned about absolute capabilities, a spacer lift is just fine.** Spacer lifts get a lot of criticism, but they're perfectly fine for the vast majority of 4x4 owners who rarely punish their vehicles. It's not as if spacers will transform your vehicle into a fragile "pavement only" mall cruiser. 4x4s with spacer lifts do just fine on most beginner and intermediate trails. They're just not good if you plan on pushing the limits of your truck. Most spacers allow 33" tires (or 35" on larger 4x4s), and that's a great size as far as giving your vehicle a more aggressive look. Best of all, spacer lifts are very affordable.

4. **There's nothing wrong with body lifts.** While most serious off-roaders will turn their nose up at a body lift, it's often the only option available if you're trying to lift a 4x4 that doesn't have a serious following. What's more, body lifts allow you to maintain the factory suspension while mounting larger tires. Larger tires are an asset off-road, and anything that helps you get bigger tires is undeniably good.

Most importantly, who cares what other people say about your 4x4 and your lift? Do what makes sense for you and have fun. Live and let live, right?

# Are Differential Drop Kits Necessary?

A differential drop kit is usually a good idea on vehicles with independent suspensions that increase front-end ride height more than 1.5" via spacers, knuckles, or brackets. By dropping the differential, the CV joints will retain the "stock" angle under normal driving conditions (or at least get close). If you neglect to drop the differential, the CV angles can increase substantially, increasing wear over the long term.

Of course, if you're trying to maximize ground clearance and don't care about CV joint wear, then you can skip the differential drop. Also, since many budget lift kits do not include a differential drop, it's important to price all the kits you're looking at with a differential drop so you can compare them correctly.




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# How Do Lift Kits Impact Factory Vehicle Warranties?

There's a federal law known as the Magnusson-Moss act that makes it illegal for any manufacturer to specify which parts can be used on their products to maintain the manufacturer's warranty. This means, for example, that your vehicle manufacturer can't force you to use their brand of oil or oil filters to maintain your warranty, limit your ability to modify your vehicle, etc.

As far as accessories are concerned, the Magnusson-Moss act specifies that:

1. You can use non-factory parts on your vehicle without invalidating your warranty...simply installing a lift kit doesn't change your warranty status.

2. If you install non-factory parts, the manufacturer can only deny a warranty claim if they can demonstrate the non-factory part caused a problem. If your CV axles fail, for example, the manufacturer (or their agent) must show that the failure occurred as a direct result of the lift kit you installed. They can't use your lift kit to deny a warranty repair on your stereo system, for example, as the two are not related.

Practically speaking, your local dealership is the arbiter of what modifications constitute a non-warrantable failure. If the dealership sells brand new vehicles with lift kits installed by the dealer, odds are good they won't automatically deny your warranty claim just because you have a lift.

What's more, if you're told that your vehicle can't be warrantied, we suggest you make the dealership justify their decision. If they can't do so - or if you're not satisfied - you can write a letter to the vehicle manufacturer, contact your state consumer protection office or attorney general, and even file a complaint with the FTC. If you make a big enough stink, odds are good you'll get your repair warrantied if there's room for doubt about the cause of the failure.




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# Vibrations

Whenever you lift a vehicle, there may be a vibration that wasn't there before due to the alteration of the driveline geometry. Here are some common fixes for the problem:

- Rear axle shims, which change the pinion angle.
- Carrier bearing drop kits, which help address the u-joint angle
- Aftermarket drive shafts, which are sometimes required when you make big changes to your vehicle ride height

Since every vehicle is different, it's a good idea to ask the lift kit manufacturer for advice if you encounter a vibration after installation. They often have some ideas about what might be causing vibrations and how to fix them. Additionally, your local 4x4 shop may have some solutions for your vibrations. Just don't be surprised if they don't want to work on a kit they didn't sell or install.

Finally, if you've added new wheels and tires along with your lift kit, you *might* be getting a vibration from a wheel balance issue. Make sure the wheels and tires are balanced before you pursue other fixes. If you've got especially large tires (37" or greater), you might have to resort to balance beads to get things right.

# Some Final Lift Kit Buying Advice

You've made it to the end of our guide - congratulations! Here's some basic advice to help you find the right lift kit for your vehicle, as well as some tips for getting the best value out of whatever kit you choose.

1. You will *always* need a wheel alignment after installing a lift kit. If you skip this step, you'll reduce your tire life.
2. *Lift kits reduce gas mileage.* Many vehicle owners see a 1-2 mpg drop in gas mileage, partially as a result of installing larger tires with more aggressive tread, and partially as a result of increasing ride height (and the effect that has on aerodynamics).
3. There are a LOT of companies selling lift and leveling kits, some of which are selling carefully designed and tested parts, and some that aren't. If you're going to buy a kit from a brand name you're not familiar with, be sure to do your research on the brand. Check product reviews on sites like AutoAnything.com, 4WD.com, etc., and search for the brand name on your favorite truck forums.
4. Since there's so much misinformation circulating about lift kits, and since much of the incorrect information is being offered in absolute and/or biased terms, e.g. "all spacers are bad" or "brand X is the best," *beware advice offered by people with strong opinions.*
5. When you change the weight of your vehicle's wheel and tire combo, you really should change your shocks. Often times, a new set of wheels and oversized tires will weigh twice as much as the stock wheel and tire combo. This increases your suspension's unsprung weight, and that means you need to adjust your shocks. Basically, if you lift a truck and upgrade the wheels and tires, you want to upgrade the shocks too.

Finally, remember that every lift kit requires some sort of compromise. You have to balance your needs, wants, and budget to find the right option for you. The perfect kit is very much an individual choice.

Good luck!