

## How to Install a Two Post Auto Lift

Installing a two post car lift requires setting the two towers into place, securing them to the concrete via anchors, and final assembly of the arms, cables, and other parts.

Installing a car lift can seem like a daunting task to the first-timer, but it's really not as difficult as it sounds. It all comes down to setup, anchoring, and final assembly. In this tutorial we'll walk you through the installation of the most commonly sold 9,000 lb two post lift in the USA today, the clear-floor Kernel TP9KACX lift. All of the content found below can also be viewed in video form by going to <https://youtu.be/1AN4pqq95hA> and watching our install video. We hope you find his info helpful, and we hope you'll consider [www.RedlineStands.com](http://www.RedlineStands.com) for your auto lift purchase.

### Step 1

Once you've decided the general area where you intend to install your lift and BEFORE you purchase the lift, you'll want to drill a small test hole a few feet away from where the lift will be. Check your manual and make sure you know the minimum thickness the lift requires. At this point, we recommend putting a piece of tape X inches from the end of your masonry bit, drilling down into the concrete, and making sure you do not fully penetrate the slab before your marker-tape reaches the slab. The X is normally 4 inches, but is often 6 inches or more for larger lifts, so be sure to read your manual for this requirement. Assuming you determine the slab is thicker than the minimum requirement for your lift, you can proceed with the install with one exception. Lift manuals always specify the strength rating of the concrete required, as well as the type of reinforcement. We find that most customers erect a lift on their existing slab and have little to no idea of the concrete's strength or type of reinforcement. Assuming you did not pour your slab yourself and have no knowledge of the psi rating of the concrete or the type of reinforcement, we recommend erring on the side of caution. This means only lifting vehicles that are not heavy. No big SUV's, diesel pickup trucks, etc. While this is still not a guarantee of safety, it's better than nothing. Assuming you are either confident in your concrete, or are willing to accept the associated risks of installing a lift onto concrete of both an unknown strength and reinforcement type, you can then proceed.



### Step 2

Assuming you have determined your concrete is thick enough and strong enough, it's now time to figure out where you plan to put the lift. The longest vehicle you'll ever lift is likely to be 22 feet long, so we recommend erecting your lift no less than 11 ft from the nearest wall both forward and rearward. Assuming you have ample space, we like to install our lifts no less than 16 feet from the wall, which will give you 11 feet for the vehicle, and an extra 5 feet of working room.

### Step 3

Once you've purchased your lift and moved it to the install area, unpack your two post lift. This part is easy on your brain and hard on your body. Start by removing all the packaging and remove any components that are not part of the main towers. Remove the arms, overhead bar, power unit, truck adapters, lift feet/pads, hardware kit, you name it. Get it all out of the towers so that the towers are as light as possible. Once you've done this, you'll need a means by which to support the towers from the end so that you can unbolt the bare steel frames from each end. An engine hoist will do great for this. Just use the hoist to support the weight, remove packaging plates at each end, and separate the towers. We recommend having a friend from this part forward.



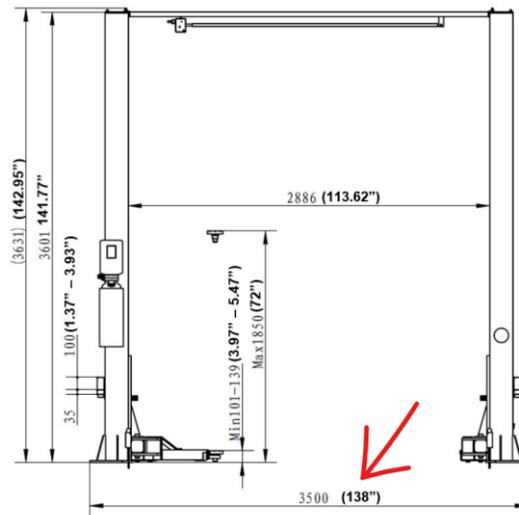
### Step 4

Now that we know where the lift is to be installed and that the concrete is thick enough, we'll pop a chalk line across the floor so that we can stand up the towers and align them where we'd like them to be. Standing the towers up can be done with two men. If your lift does not feature one piece columns and has a ~3ft extension that must be bolted in place, we recommend doing that while the towers are still lying on the ground. In our case for this lift installation pictured, the towers are made from one piece of steel, so there are no column extensions to bolt in place.



### Step 5

Now that the towers are standing upright and you've walked them into place so that they're properly aligned to the chalk line, you must then properly space the towers apart. Refer to your manual! At the time of writing this blog, the TP9KACX towers must be spaced 138" from the outside of the base plates.



### Step 6

Now it's time to start drilling holes in the concrete. Using the appropriate size masonry bit and a hammer drill, you'll want to drill the first hole through any one of the base plate holes. Drill all the way through the slab until reaching dirt, and then use an air blow gun to blow all the dust and debris out of the hole. A shop vac can also be used to remove the dust from the hole. DO NOT drill the second hole at this point.



## Step 7

In this step, we discuss the optional use of adhesives to help the anchors secure to the concrete. If you do not wish to use an adhesive, you can skip this step. However, we recommend this step as it will help to ensure your concrete anchors do not loosen over time.

We recommend using AC100+Gold adhesive on the concrete anchors. This is a two-part adhesive that you'll apply to the expanding end of the anchor right before driving the anchor into the hole. Do not mix this adhesive until it's time. In warm climates, the working time of this adhesive can easily be less than 1 minute, so being prepared is key. You'll simply install the washer, lock washer, and nut onto the end of the anchor. We like to leave the nut only threaded onto the anchor so that it's flush with the end of the anchor. This helps ensure as you hammer on the anchor, that it does not "mushroom" the end of the anchor to the point the nut can no longer be removed. Next, you'll spread the mixed epoxy on the "expanding" end of the anchor, and then hammer the anchor into the hole until it cannot go any further. Once the anchor is installed, you must then tighten the anchor with a wrench so as to fully expand the anchor inside the hole. This will ensure the anchor is held in place both via adhesive, as well as by the mechanical action of the expanding anchor. It is terribly important the anchor be tightened and torqued to the spec provided by the manual "while the adhesive is still wet." If you allow the adhesive to cure inside the hole without first tightening the anchor, the anchor will not later expand because the adhesive will have essentially glued the anchor closed. Once the first anchor is done, you can now perform the same action with the second anchor, but be sure to pick an anchor opposite that of the first anchor. Only once the 2<sup>nd</sup> anchor is complete can you proceed with all the remaining anchors. Do not attempt to do them all at once. Performing these actions in the order specified above will ensure you do not drill all the holes, install a few anchors, and discover that the remaining anchors no longer align with the holes in the concrete. DO NOT use an impact on these anchors.





### Step 8

Now that the first tower is secured to the concrete, we'll wait the recommended amount of time for the adhesive to cure as per the chart on the tube, and then we'll install the shims that come with the lift to get the tower plumb. You'll use a level against the side of the tower, loosen the freshly tightened anchor bolts, and then add shims as needed until the tower is perfectly plumb, and then retorque the anchors.

F/C	t <sub>gel</sub>	t <sub>cure</sub> curado
147F / 10°C	90 m	24 h
227F / -5°C	90 m	14 h
327F / 0°C	45 m	7 h
417F / 5°C	25 m	2 h
507F / 10°C	15 m	90 m
587F / 20°C	6 m	45 m
667F / 30°C	4 m	25 m
667F / 35°C	2 m	20 m
704F / 40°C	1.5 m	15 m

m = minutos | minutos | minutes  
 h = hours | horas | heures  
 \* Base material temperatures 14-23°F

**IMPORTANT:**  
 Preparation, handling & installation procedures are critical. Complete details are provided on the product. Storage in dry location, out of sunlight, temperature 32°F - 86°F.

**IMPORTANTE:**  
 Procedimientos de preparación, manejo del pozo y la instalación son críticos. Consultar instrucciones de instalación detalladas proporcionadas con el producto.

**ALMACENAMIENTO:**  
 lugar fresco y seco, fuera de la luz solar directa.





### Step 9

Most first-time-installers think when you finish anchoring the first tower, it's time to anchor the second tower, but that's not correct. At this point in the process, we'll fully assemble and install the overhead bar. This requires attaching the wiring to the limit switch, bolting the limit switch in place, bolting bracketry in place for the overhead shutoff bar, installing the overhead shutoff bar, and finally, securing the limit switch arm in place so that when the shutoff bar is raised, the limit switch opens and kills power to the lift. Finally, two people will carry the overhead bar up two ladders and bolt it into place.





#### Step 10

Now that the overhead bar is secured in place and the 1<sup>st</sup> tower is anchored into the concrete, its now time to plumb the 2<sup>nd</sup> tower and anchor it to the concrete. At this point, we recommend abandoning the outside to outside measurement that we spoke about earlier in this article. It's far more important that the towers be "plumb" than spaced according to the manual. Thus, you'll again set a level against the second tower, and then use a hammer to bump the base of the tower either inward or outward until the tower is perfectly perpendicular with the concrete. So what if the spacing of the towers changes from 138" to 137.5"? The towers must be plumb above all. Once you have the tower perfectly positioned, repeat the process outlined earlier to secure the second tower to the concrete.



### Step 11

In step 11, you'll hang the power unit. We recommend doing this with 2 people in order to avoid the possibility of dropping the power unit and causing significant damage to the unit. We also recommend pre-installing the top two hanging bolts into the power unit. This will allow you hang the power unit into the slots on the mount found on the tower versus trying to put the bolts into holes in the lift, all the while holding up the power unit. Once you've got it hung, tighten the bolts.



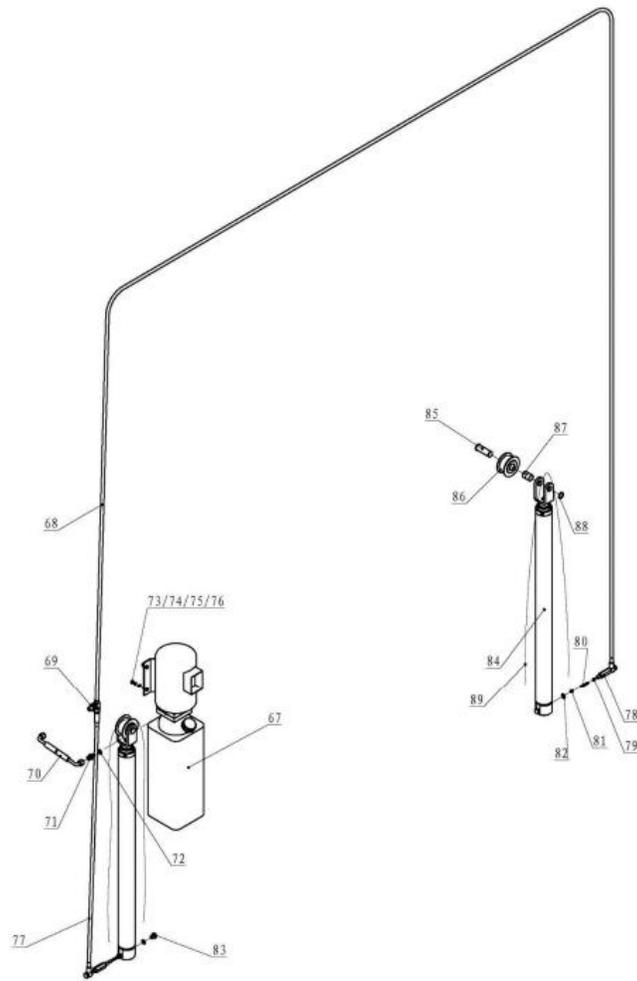
### Step 12

Now that the power unit is hung, it's time to install the hydraulic lines, hydraulic fittings, and safety shutoff switch wire. Route the lines as per your manual and connect them as shown in the diagram below. Bear in mind these fittings are either flare fittings or o-ring fittings, so no thread sealant of any type will be needed. We recommend using Gorilla Tape or zip ties to ensure any extra hydraulic line material is tied-up at the top of the lift. This ensures the lines do not "bunch-up" inside the towers and ultimately interfere with the carriage as it travels up and down. Finish step 12 by running the wire from the safety shutoff switch down to the power unit via the same routing as the hydraulic cables.

**Pro Tip:** Make sure when you install the Tee fitting into the tower that you adjust the fitting so that as little of the fitting as possible protrudes inside the tower. If you leave too much of this fitting inside the tower, the carriage will hit it on its way up and destroy it on the first usage.



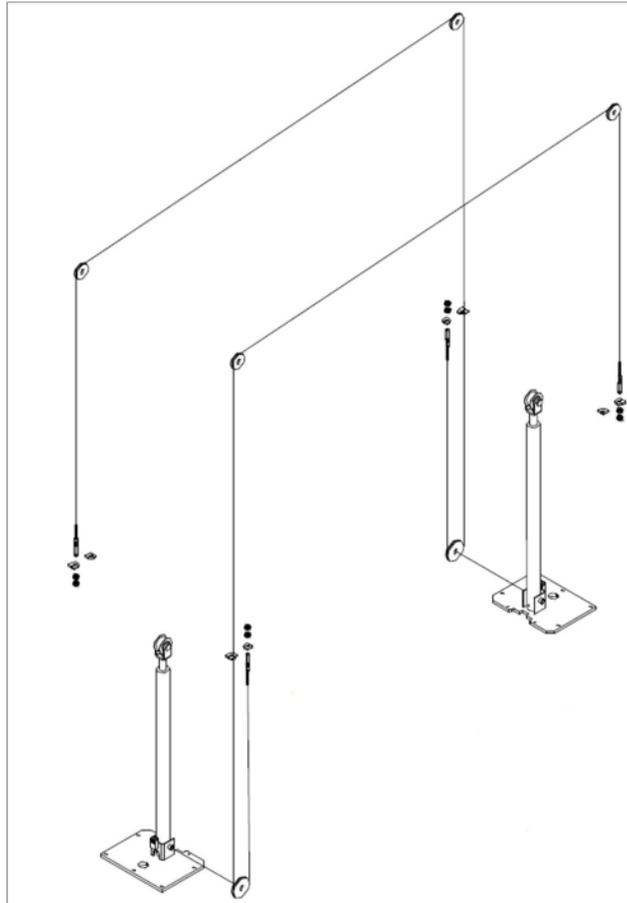




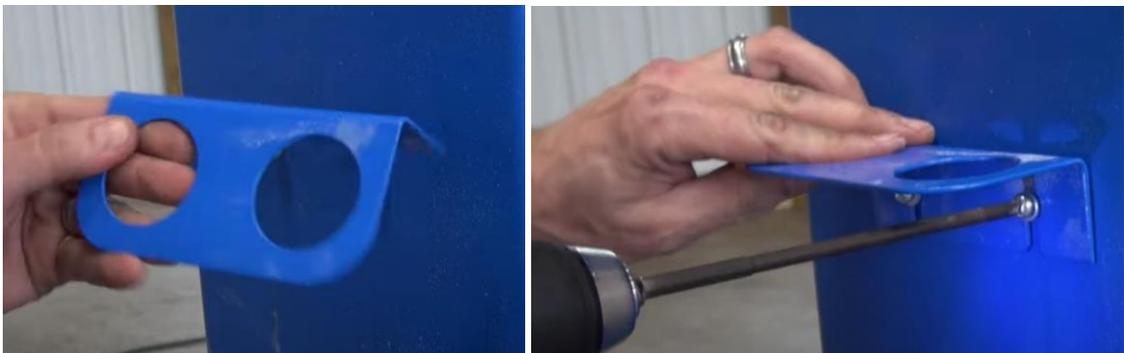
### Step 13

Now it's time to install the equilibrium cables. Again, refer to your manual. The diagram shown below details the routing of these cables for the TP9KACX. Be sure when you're done to install 2 nuts on each end of both cables. You'll use this double-nut system to lock themselves in place so they can never loosen.





Step 14  
Mount the truck adapter hangers onto the lift as shown



### Step 15

At this point, you'll now hang the arms onto the carriage via the carriage pin.

Pro Tip – A little grease will make this job much easier, as well as keep the lift from squeaking during operation.



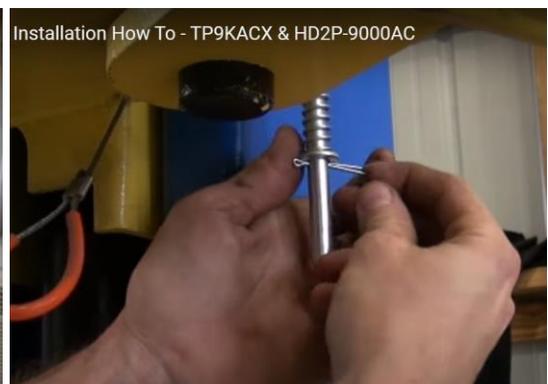
### Step 16

Drop the lifting feet/pads into the arms, making sure the flat side of the threaded pad mount aligns with the tab welded to the lift arm.



### Step 17

Install the arm restraints so that they fully engage the teeth on the arm, making sure there is not so much play in the assembly that they could possibly allow the arm to swing left or right while the restraints are engaged. Don't forget to install the spring, washer and cotter pin underneath the carriage as shown below to ensure the arm restraints are spring loaded.



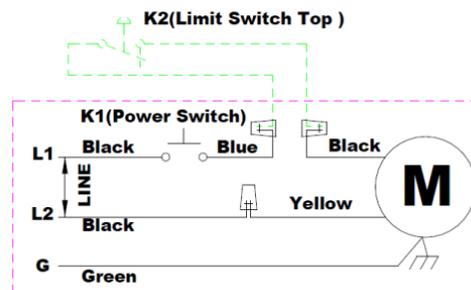
### Step 18

Connect the hydraulic line from the power unit to the tower and fill the power unit reservoir with whatever fluid your manual requires. In our experience most 9K-11K lifts will need about 3 gallons of fluid, whereas 12K-15K lifts typically require around 4 gallons. In this example, we're using ISO32.



### Step 19

Now it's time to wire the power unit. Again, refer to your manual for the wiring diagram and hire a professional for this. Lift manufacturers will not warranty a faulty power unit unless the customer can produce a receipt proving the power unit was wired by a professional electrician. In the case of the TP9KACX, it's simple. We install a 30 amp 220V breaker, which produces two separate 110V power lines. One of those "hot" lines will run directly to the power unit. The other "hot" line will run through the limit switch, more commonly known as an overhead safety shutoff switch. After that, you'll connect the ground wire to the power unit housing and you're good to go.



### Step 20

At this point in the installation, it's time to adjust the equilibrium cables. To adjust the cables, raise the carriages via the power unit so they are a foot or two off the ground, but do not lower the carriages onto the safety locks. Now you can begin to tighten the cable as shown below using a wrench or electric impact. Tightening the cable nut will raise the carriage "on the opposite side of the lift" upwards. Repeat this process from one side to the other until both carriages are level from side to side, resulting in cables that should be taught, not tight.



## Step 21

Congratulations, you're almost done. Now it's time to set a car on the lift, raise it just slightly off the ground, check it for balance, and again re-adjust your cables to ensure the vehicle is level from side to side. Now you're done, but we do recommend checking your anchors again after a month or so of usage to make sure any initial loosening of the anchors isn't allowed to remain. We hope this was helpful! Please check us out at [www.RedlineStands.com](http://www.RedlineStands.com) to see all the lifts we offer.



In conclusion, please understand this blog-post is meant to serve as a cliff-note guide to the installation of a 9K lb two post lift, particularly the TP9KACX, which is the most commonly used 9K lift sold in the USA today. Thus, you should always consult your lift's manual and give preference to the manual should any difference between this blog-post and your manual arise.