

Skateboarder's Handbook

General Reference & Guide to the Galaxy

Written by Ty Mixon | Edited by Billy James

General Skateboard Maintenance

Grip tape

- Clean skateboard grip tape by using Belt Sander Cleaner.
 - You can buy it online or at hardware stores.
 - Grip gum made by skate companies are also available.
 - Shake Junt and Enjoi (Felipe Torpedo)
- Remove old grip tape by using a hairdryer, heat gun or leaving in the sun.

Wheels

- Flat spotted wheels can be fixed by doing short slides at speed.
- Clean wheels with warm water, soap, and brush.

Bearings

- Remove bearings from the wheels. Inspect the shields.
- Use a knife or flathead screwdriver to remove the cover.
- Clean with mineral spirits, lemon juice, or baby oil.
 - Do not use WD 40.
- Lubricate with bones speed cream.
- Replace seals and reinstall bearings into the wheels.

Bushings

- To refurbish old bushings, bring a bowl of water to a boil.
 - Can be done using a microwave.
- Place bushings in the water after it's removed from the heat source.
- Let the bushings sit until the water has cooled.
- Reinstall bushings into trucks.

Deck

- Separations between laminates can be fixed using super glue.
- Chips or dings are best fixed with 2-part epoxy.
- Razor tail can be fixed with sawdust and superglue.
- Coat a deck with lacquer to prevent water damage.
- Avoid puddles, if the deck is soaked, dry immediately.

Hardware

- It's best to replace old hardware.
- In a pinch, blue or white Loctite can prolong the use of hardware.
 - DO NOT USE RED LOCTITE.

Trucks

Compatibility Chart

Truck width	Deck width
109mm	6.9in
129mm	7.6in
139mm	8in
144mm	8.2in
149mm	8.5in
159mm	8.75in
169mm	9.125in
215mm	10in

Truck width

To find the truck width, use a tape measure or ruler to find the distance between the axles. You may also use the chart on the previous page to find what width you are looking for.

Truck types

TKP: Traditional Kingpin Truck (Street Boards)

RKP: Reverse Kingpin Truck (Longboards)



TKP

Truck orientation

TKP: Kingpins facing the inside of the board.

RKP: Kingpins Facing the outside of the board.



RKP

Truck orientation

When a skate tool is unavailable, you may use a socket set.

Use the chart to the right for reference. In a pinch: You can buy 5/16 washers to use as axle washers and 3/8in washers to use for bushing washers from most hardware stores.

Axle nut	5/16in
Kingpin nut	3/8in
Mounting nut	7/8in

Baseplate angles

This measurement is used to show the degree to which the hanger sits in relationship to the baseplate. In general, a lower angle will have more lean and less turn, whereas a higher angle will have more turn with less lean.



Kingpin orientation

Kingpins normally have the nut on the top of the truck allowing the rider to swap the bushings without removing the kingpin; however, the kingpin on many trucks may be or may be modified to be inverted. This is normally done to allow for more room to grind.

Axle rethreading

If your locknuts will not go on the axle, then you may have a damaged thread. To fix this you need a tool called a re-threader that comes on many skate tools. In a pinch: you may be able to find a 5/16 imperial thread die.

Kingpin rethreading

In this instance, you are best off replacing the kingpin rather than rethreading it, but it can be done with a 3/8 imperial thread die.

Cleaning & polishing

On raw, or metallic finish trucks, one can use stainless steel oven cleaner to remove most dust and debris. Do not use this with painted trucks. For painted trucks, use GOO GONE. Polish trucks using car wax and a microfiber cloth.

Bushings

Bushings are cylindrical pieces of polyurethane that allow the trucks to pivot. Bushing types and hardness will determine how your trucks feel and ride.



Bushing shapes: Cones & Barrels

Cones have a larger diameter on one end.

- Less resistance when turning.
- Less rebound. Less stable.

Barrels have the same diameter throughout.

- More resistance when turning.
- More rebound. Increased stability.

A combination of cylinders and cones is a common combination because the stability of the cylinder is complemented by the flexibility of the cone.

Durometer

Durometer is a standardized way to measure the hardness of the bushings and wheels. The skateboard industry uses the shore A scale to get a rough idea of hardness. However, it's not an exact science because every company uses a different urethane formula.

Bushing durometer hardness

78a	Extra soft
80a	Soft
86a	Med soft
90a	Med hard
95a	Hard

Bushing hardness compared to truck width

Wider trucks have more torque than narrow trucks, and this will be one of the many considerations a rider will need to take into account when selecting bushings. A wider truck will require a harder bushing than a narrow truck if the goal is to have a similar turn.

Bushing Hardness compared to rider weight

This is more related to the personal preference of the rider, but a medium hardness bushing is generally intended for riders weighing 150-180lbs. If you weigh less, you will need a softer bushing. If you weigh more, you will need a harder bushing.

Speed Wobbles?

Speed wobbles are wrongly accredited to loose trucks, but the likely culprit is bad geometry or most notably worn-out pivot cups. Inspect your pivot cups and replace them when needed.

How to clean bushings and pivot cups

To clean pivot cups, bring a bowl of water to a boil and let the bushings sit for 5 minutes. Wipe down the bushings with a cloth. Use sandpaper if needed.

Bushing squeak?

A simple solution is to use wax, petroleum jelly, or white lithium grease on the bushings. Be wary of applying to the hangar this can cause problems.

Hardware & Risers

The standard bolt size is 10-32. 10 refers to the standardized sizing by ANSI B1 and 32 refers to the thread count. There are 32 threads per inch. For most setups, you'll use bolt sizes in the 1-2" range.

Hardware length for riser size

7-Ply Skateboard Deck

Riser Thickness	Hardware Size
No riser	7/8in
1/8in riser	1 1/8in
1/4in riser	1 1/4in
1/2in riser	1 1/2in

8-Ply Skateboard Deck

Riser Thickness	Hardware Size
No riser	1 1/8in
1/8in riser	1 1/4in
1/4in riser	1 1/2in
1/2in riser	2in

Wedge Risers

You can use wedge risers to manipulate your setup's riding feel.

Wedging is when the tallest part faces the center of the board.

- More turn, less lean
- Decreased stability

De-wedging is when the tallest part faces the end of the board.

- More lean, less turn
- Increased stability

Wedge Variations

Front Wedge



The front has more turn compared to the back.

Double Wedge



The front and back truck have an increased amount of turn. More responsive, but easier to get speed wobbles.

Wedge & Dewedge



The front has an increased amount of turn and back has decreased amount. Most stable at higher speeds.

Wheels

Wheels are based on 4 different measurements

- Durometer (hardness)
- Size (in mm)
- Shape
- Polyurethane Formula

Durometer

The smaller the number, the softer the wheel. Softer wheels are best suited for rough terrain and carving. Harder wheels are best suited for smoother terrain and slides.

Wheel durometer hardness

78a	Soft
80a	Med Soft
85a	Medium
90a	Med hard
95a+	Hard

Wheel Size

The larger the wheel, the slower it accelerates, but the longer it keeps the momentum made from a push.

Personal preference above anything else.

Smaller wheels (50-55mm) are best suited for street skating.

Medium-small wheels (55-60mm) are best suited for bowls and parks.

Medium wheels (60-65mm) are best suited for longboards/cruisers.

Medium-large wheels (65-70mm) are best suited for longboards.

Large wheels (70mm+) are best suited for long-distance riding.

Shape: Composed of...

1. Bearing seat (Center or offset)

Does the bearing sit in the middle of the wheel, or does it sit to the side?

- Center set wheels are most common.
- Offset wheels are preferred for carving.

2. Edge Profile (Rounded or sharp)

- A rounded lip is better for slides.
- A sharp lip is better for carving.

Polyurethane Formula

The formula of the wheel is everything. There are formulas made for sliding, carving, cruising, free riding, street skating, park skating, surfskates, slalom, you name it! Check the wheel online or look at the packaging to find out what the secret sauce does before using them.

Bearings

What kind of bearings do you really need?

Street bearings

- Bones reds, Bronson, ABEC rating of 7+

Precision street bearings

- Bones Swiss, Bones super Swiss 6, Bronson G3s

These are the durable and fast bearings designed for abuse over time, high impact, and going fast. The price is usually around \$40.

Longboard bearings: any bearings with built-in spacers

- Zealous, Yellow Jacket, Loaded Jehu and Bear Space Balls
- Sector Nine blaze bearings. Heady Shake bearings

Precision longboard bearings. Some of these do not have spacers

- Old boy ceramic bearings, bones ceramic super reds
- Bones Swiss Ceramics

Any ceramic bearing is overkill for street setups, but there are street riders that ride these bearings and swear by them.

Crappy bearings

Bearings that are dirty, dented, rusted, worn out, or heavily abused. All bearings can become crappy bearings, it's a part of the sport. Depending on what bearings you select, how long you ride them, and how well you take care of them.

They also can stay rolling for decades.

Cleaning solutions

- Mineral spirits
- 90% Isopropyl Alcohol
- Acetone
- Non-water-based citrus cleaner

Lubricating solutions

- Bones speed cream
- Motor oil, vegetable oil, canola oil, baby oil
- Pam cooking spray
- Lithium Grease
- Tri Flo Grease

DO NOT USE WD40!!! Google why or try it yourself if you don't believe me.

Common Issues

Wheel bite?

Tighten your trucks, add stiffer bushings, add washers, add riser pads or get smaller wheels.

Speed wobbles?

Get new harder bushings, a new pivot cup, or new trucks if need be.

Trouble sliding?

Most wheels will slide if you practice enough. It will be easier to learn on smaller, harder centerset wheels made for sliding. Street wheels may also be used.

My board doesn't turn enough

- Loosen the trucks or use softer bushings.
- Wedge risers may be used.
- If the trucks are TKP, maybe try RKP.

Hardware keeps coming off?

In a pinch, you can use Loctite. New hardware is needed.

Feet keep slipping off board?

You might need to get new grip tape or get a sheet with increased the grit.

Chipped wheel?

Apply super glue to the area of the chip then place the chipped part of the wheel in place. This may keep you rolling.

Wheels are narrower than deck?

Add washers to the inside of the wheel facing the truck. If it's still too narrow, you may try offset wheels. New trucks are also a good option.

Customizing your setup

Skateboard customization is the best way to bring flair and style to your ride and make it stand out. Here are a few different customization options that you may want to try.

Deck

Stickers: The easiest thing you can do to customize your board is to add stickers. This is the most common form of skateboarding customization that started in the mid-70s. Take it up a notch by buying sticker paper and printing out your own killer stickers, logos, or even graphics.

Paint: Many people use spray paint on blank or sanded boards to give them that color that makes you go “WOW,” but most of the time it looks horrible.

I recommend using acrylic paint and water. This is an easy way to paint the board and even give it a stained look of your desired color.

Shaping: Get ahold of a jigsaw and sandpaper, or even go to a local cabinet shop to cut out your own shape. You need to make a template first, but this is not only a fun way to customize your skateboard, but also a way to give your board a new life as a cruiser.

Grip Tape

For grip tape art use paint pens. Try using scissors to cut intricate or simple shapes and patterns into the grip tape before applying. You may use light coats of spray paint to attain a solid color, but you lose a bit of grip.

Hardware

This is the simplest and a personal favorite way to add some custom flair to my setups. Grab a paint pen and paint the top of the screws and the entirety of the nut. Coat with clear coat high gloss to make it last. This is a great way to make your board look fresh.

Trucks

Spray paint may be used to give your trucks some color. Oven cleaner may be used to remove a given color unless it is powder coated.

Safety Equipment

I am including this because I think that safety equipment is underrated, and it should be more commonplace.

Here is a simple guide to when you should use certain safety equipment and some equipment you may have not thought of.

Helmets

- A helmet should always be worn especially when learning a new trick.
- If you are discouraged from wearing a helmet because it's "not cool," Please remember that helmets being "uncool" was put in place by the government in the late 90s to decrease the number of skateboarders.

Kneepads

- Kneepads are intended to be worn when going fast.
- Wear when skating in big parks, pools, vert ramps, or downhill.
- They may be worn when learning a new trick on flat ground, but normally, it's overkill.

Elbowpads

- Some skaters fall on their elbows more than others. If you are one of these skaters, wear them.
- Elbow pads are intended to be worn for parks, pools, vert, and downhill.

Wrist Guards

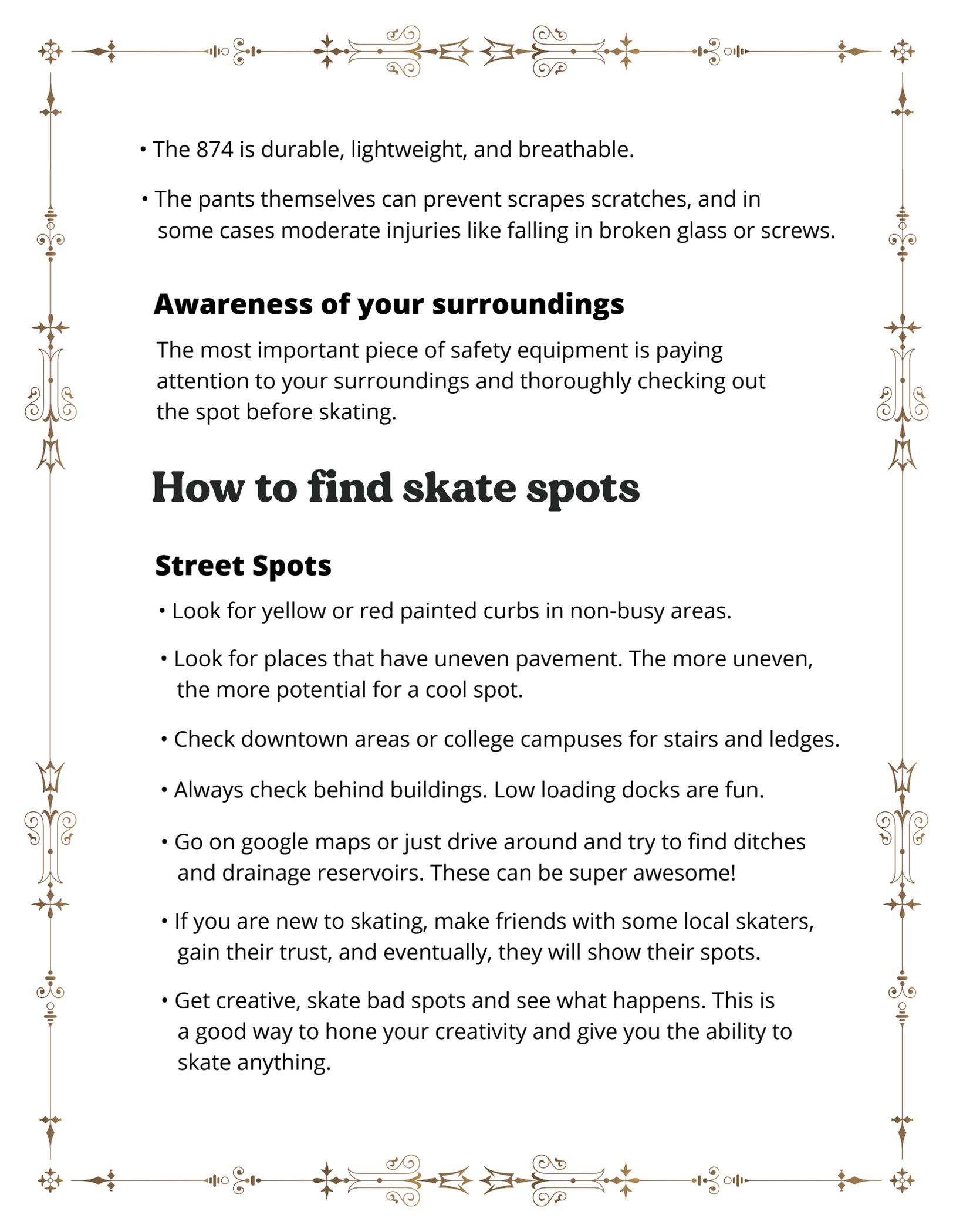
- Wear whenever learning any new trick or skating any new terrain.
- These are good for street skating.
- Be careful, the plastic slips in some situations. Be ready for them to slip out.

Shin Guards

Soccer or volleyball shin guards can be purchased for cheap and are great for learning street tricks and skating ledges.

Dickies

- Dickies are a brand of pants that may be purchased at Walmart for \$20.

- 
- The 874 is durable, lightweight, and breathable.
 - The pants themselves can prevent scrapes scratches, and in some cases moderate injuries like falling in broken glass or screws.

Awareness of your surroundings

The most important piece of safety equipment is paying attention to your surroundings and thoroughly checking out the spot before skating.

How to find skate spots

Street Spots

- Look for yellow or red painted curbs in non-busy areas.
- Look for places that have uneven pavement. The more uneven, the more potential for a cool spot.
- Check downtown areas or college campuses for stairs and ledges.
- Always check behind buildings. Low loading docks are fun.
- Go on google maps or just drive around and try to find ditches and drainage reservoirs. These can be super awesome!
- If you are new to skating, make friends with some local skaters, gain their trust, and eventually, they will show their spots.
- Get creative, skate bad spots and see what happens. This is a good way to hone your creativity and give you the ability to skate anything.

- Find the best time to skate. Try to figure out when the area is the least busy and skate then.

Longboard Spots

- Mountains, especially mountain state parks usually have nice smooth steep roads. Bring a spotter for cars!
- High schools or city parks with running tracks can provide a nice smooth grippy surface for carving and learning tricks.
- Never underestimate state parks, paved bike paths can be found via google search and can provide a super fun way to skate in nature.
- Always keep an eye out for drainage ditches and reservoirs.
- Make sure to check out these spots in advance. Look for potholes, broken glass, and road debris. If it's on a mountain road make sure you listen for a while. If you hear a straight piped Honda or rotary engine, it's a safe bet that the road has already become occupied with hazardous drivers.

How to make skate spots

Wax

- Candle wax, beeswax, gulf wax, paraffin wax.
- Can be used on curbs ledges and boards to help reduce friction for slides and grinds on curbs ledges or parking blocks.
- May also be applied directly to the road to make downhill slides crazy slick.

Rub Brick

- Can be purchased at hardware stores. Can be used to turn any curb or ledge into a buttery slick dream spot.

Lacquer

- Applied before wax on any curb or ledge to make it slick.
- Can be purchased in aerosol cans or in paint tins.

Bondo

- Can be used to fill cracks or crevices on sidewalks, ledges, or curbs.

Brooms. Any type, any size

- Can be used on jersey barriers to make a sketch quarter pipe.
- You can turn a dusty trash-filled area into a nice smooth skating area in minutes.
- Brooms are a super useful tool when making a skate spot.

Quick Crete

- Sand topping mix specifically. Can be used to add transition, repair curbs and ledges, or make a patch of road or concrete smooth.

Rustoleum Flat Enamel Spray Paint

- Buy a red and yellow can for skating curbs.
- Can be used to make a non-skateable curb skateable.

- Can make current slappy spots last longer.
- Can be used to hide scratches and wear marks.

LED Lamp or Spotlight

- Just keep one in your car. Thank me later.

Yellow high visibility vest and hardhat:

- If you walk up to a spot with equipment and a skateboard people are going to ask questions and probably call the cops. If you leave the board in the car and go out there wearing a high vis vest and hardhat, then you are less likely to have issues.

How to avoid getting arrested

You must inform yourself about your local laws and ordinances.

Learn the law and its parameters

- Most laws regarding skateboarding are City Ordinances. These are considered to be less serious than misdemeanors. Fines are most common; jail time is not common.
- Google your hometown's city ordinance page, and hit "CTRL F." Then type in "Skateboarding" in the drop-down box.
- Take note of every detail. The filing number, the parameters, and make sure that it is about skateboarding and not roller skating. Write it down word for word and memorize it.

- 
- Next call your local police department (NOT 911, USE OFFICE NUMBER) Inquire about the city ordinances and ask these questions.

“Is there anywhere I am not allowed to skateboard.”

“Is there anywhere I am allowed to skateboard?”

“What are the consequences for skating in regulated areas?”

- Finally find a police officer, off duty or not busy, and ask these questions.

“Hey, what are the city ordinances on skateboarding?”

“I want to skate, but I don’t want to get in trouble. Any tips?”

“Is the city ordinance heavily enforced?”

If approached by law enforcement, please do accordingly to not get arrested.

- DO NOT RUN OR TRY TO HIDE EVER! THEY WILL TACKLE YOU!
- Keep a calm and cool demeanor and keep your hands out of your pockets.
- Smile and politely greet the officer. Address them as “Officer.”
- Answer all questions honestly and politely.
- If they ask you to leave, leave immediately, and wait a few days before returning to the spot. It would be safe to go at a different time.

9/10, they are just following up on a complaint or they are just curious.

Don't give them a reason to suspect any wrongdoing or a reason to arrest you.

Being polite will keep you out of trouble. It should probably go without saying, but it's probably best not to have illegal substances on your body.

It's very uncommon that anyone is arrested solely for skateboarding, so if it's against the law to skate, and you're going to skate anyways...

Make sure you're not breaking any other laws in the process.

Acknowledgments

Tyler Mixon: Author

Billy James: Editor

Van Neistat: Gave us the idea to make a free printable pdf booklet.

You (the reader): Made this whole thing possible. Give us feedback! Send to billy@shredshack.com or DM on Instagram (@tymixon / @shrdshack)