

**Warning:**  
**4<sup>th</sup> Gear Flyer Mats Are Not Guaranteed!**

The durability of a 4<sup>th</sup> Gear Flyer is determined by how well it's cared for!

**! Never inflate a mat with anything but your own lung power!**

Air pumps of any kind, electric or hand, can easily pop a mat – any mat.

**! Do not use a screw driver to force the plug into the valve hole in the mat...just use your fingers.**

Don't try to push the plug all the way into the grommet valve. Just moisten the shaft of the plug with saliva and insert it in the valve hole **by hand**. It should go into the valve hole most of the way in, but not all the way. No need to force it. You only need to insert the plug as far as it takes to seal the valve...usually about  $\frac{3}{4}$  deep.

The neoprene valve hole in the mat will change its shape/hardness as the water temperature changes, so the plug has a tapered shape to help compensate for that variation. The plug will insert deeper into the valve in warmer water, and shallower in colder water. Go by feel.



**! It's best to wade into deeper water before you start paddling out!**

The nylon material of the 4<sup>th</sup> Gear flyer is tough stuff, and it's very rare for them to burst during normal usage. But sharp rocks, barnacles, and coral will shred the fabric if you paddle over them in shallow water. It's important to resist the temptation to launch or land in areas of shallow, hazardous water.

**! Do not leave your mat in the sun, or in your car, with the air plug installed!**

Another pitfall is leaving a mat in the sun, or in your car, inflated with the air plug installed. It'll last maybe 2 minutes before it explodes. There's no way to repair a mat which has blown out the I-beams. The only way to avoid this problem is to remove the air valve plug as soon as you leave the water!

**! Do not leave your mat unattended in windy conditions!**

The 4<sup>th</sup> Gear Flyer is a lightweight surfing vehicle, and very strong winds can carry them away. Don't let your mat get loose if it's windy.

**! Do not attach a leash or hand rope!**

It's tempting to install a leash or rope to the outer flange of the material, but the cure is worse than the disease, as the material will tear under any kind of point-loading. Besides, nylon mats are easy to hang onto with your hands!

**! For mat surfing beginners – and we were all newbies once! -- the deck side is the coarse black nylon canvas. The bottom is the smoother blue nylon twill. The plug is on the front end...**



**! The model information is located between the flanges in the area that is marked with blue tape when you receive your mat...**

When you peel back the flanges, the information is inside...



## 4th Gear Flyer Rider's Guide 9/19/2107



Mat surfing takes a bit of time to master, even if you're a talented surfer with years of experience. You can manipulate the air pressure as you ride, and that, combined with your swim fins, gives you a lot of control.



This is an example of ideal positioning on a mat. The rider's head is at the front of the mat, his left hand has a firm grip on the side of the outer rail, his weight is focused on the

inside rail, and his fins are up...with the inside fin poised to drop into the water when called for.

The inflation setting is an important part of a 4<sup>th</sup> Gear Flyer's performance capability... but there is no answer as to what inflation level is best.



A firmer mat will hold in while turning.



A softer mat will break loose and fly over flat spots.

In the beginning, you can ride your mat almost completely inflated to get the feel of the full, round rail holding into the wave. Then, as you gain experience, you can release some air and get the feeling of skimming over the water. You'll eventually learn to combine both experiences – and hard mat and a soft mat -- with one inflation setting. By squeezing the mat as you ride, you can skim part of the time, and track into the pocket other times... all on the same wave!

An easy way to judge the level of your mat's inflation is to blow it up on the beach fairly firm, but not rock hard. Then paddle out to the lineup, roll off the mat, and fold it in the middle, length-wise.



A typical “fold angle” for an experienced mat rider in moderate sized point surf is a 90 degree bend. However, a more conservative 45 degree bend is a good place to start.

Wave size is an issue when learning (or re-learning) how to ride a mat. It's difficult to get them going in waves under 3 feet until you get a feel for skimming in low power situations. Ideally, your first few go outs should be in waves over 3 feet. Often times, mat riding is a complete puzzle in the beginning...until one day you're on a 4 or 5 foot wave, section stands up in front of you, and the mat is drawn into the pocket and jumps into high gear. That's the moment every serious mat surfer remembers...the first time they felt speed and freedom only a nylon mat could give them!

4<sup>th</sup> Gear Flyers work in a widest variety of conditions of any surf craft. They're fast, they feel great, and they're unbelievably easy to travel with. And no matter how many years you ride one, there's always something new to experience!

# Advanced Riding Techniques

## Banked Bottom Turns



Great bottom turning technique: Outer hand compressing the mat's inflation level, inner elbow almost but not quite touching the water, inside flipper dipping in.



## Un-Banked Bottom Turns

A mat's trim speed can be increased with a “yaw” turn off the bottom. Rather than banking the mat off the bottom, the rider eases the nose back up the face just a few degrees, and he can take a natural track back up the face and into the power.



Both photos show textbook "flat" bottom turns. Notice how the water is undisturbed as the mat changes direction.



## **Controlling Your Mat With Swim Fins.**

Remember, back in the day, when you tried to fly a stick-and-paper kite without a cloth tail, and the kite would violently swing back and forth? In many ways, the mat rider's legs (and fins) function like the tail on a kite. They counterbalance the mat's tendency to drift laterally.

Controlling lateral drift with one fin...



Using the inside fin for directional stability.



Lifting the inside fin to allow the tail to slide out.



Both fins are out of the water... and the mat is in full side slip.



The inside fin is lowered back into the water to check the tail slide.

A subtle but critical adjustment, mid-trim...



A speed run into a building section. Both fins are clear of the water.



A quick dip of the right flipper tightens the rider's line into the face.



Both fins are released for maximum speed.

## Cutbacks

Four different styles of cutbacks...



A carving cutback with fins in the water, and left hand dragging and providing a pivot point.



A flat, drifting cutback with both fins out of the water.



A carving cutback with both fins out of the water.



A carving cutback while dragging one fin to control the arc.

## Unweighting



Even under full power, there's a benefit to unweighting just as you reach terminal drop-in speed...and letting the mat *fly* before burning off a bottom turn.

## Riding in 3<sup>rd</sup> Gear

"3rd Gear" is a term George Greenough uses to describe high speed mat surfing. In simple terms, riding straight-off is 1st gear, while trimming across the wave at curl speed is 2nd gear. 3rd gear is moving beyond simple trim speed and running past one section, over a flat area, and through the next section.



Jumping from 2nd to 3rd coming off the bottom...



...and running across the wall in 3rd gear. Notice how far forward the rider's body is, and how little of the mat is touching the water at this point.



Using the 3rd gear speed to come off the bottom again...



...and redirecting the energy into a lip bounce.





George Greenough often talks about running in 3rd gear, and being able to surf through a single section of a wave three times. If enough speed is in hand, he can glide over the top of a section as it's forming, cut back across it as it crests, then run through the same section again as it breaks. This photo is a perfect example of third gear mat surfing!

## “Head First” Tube Riding

Here’s a simple technique to pull yourself into a tube while riding a mat...

Keep your head low and forward, and move it out over the inside rail. The mat will follow, and take the right line every time!



## Making A Tube Ride

The best way to get through a tube on a mat is to spot a point on the wave well ahead of you and keep focused on it. Your body and mat will take the natural line to that point.



Photos: Wardie

# REPAIRING YOUR 4<sup>TH</sup> GEAR FLYER

## Holes and Tears:

Holes and small tears in the two outer skins of the 4<sup>th</sup> Gear Flyer can easily be repaired, but a few simple steps should be followed to insure that the repair is strong and permanent.

Rinse your entire mat with fresh water, especially around the damaged area. Hang up and allow it to dry thoroughly.

Cut a piece of repair material that is about 3” longer and wider than the damaged area. Cover the “urethane” (shiny) side of the repair material with a layer of masking tape. Several strips of tape placed side by side may be necessary to cover the repair swatch. (The reason for the tape is to stabilize the material so it won’t curl up when the bonding cement is applied. It’s OK to let the tape go past the edges of the material.)

With scissors, trim cut down the “laminated” of tape and repair material into a piece that’s about 2” longer and wider than the damaged area. (The repair swatch and the tape backing will be the same shape.)

Use a contact cement to make your repair...such as wetsuit glue, Barge, or DAP Weldwood.)  
Read the directions before using!



Apply a layer of cement around the damaged area that’s about 3” longer and wider than the tear. The material will curl up slightly as the glue dries. This is fine. Just make sure that the glued surface doesn’t touch itself, as the contact cement will create an unwanted bond.

**A tip if you are repairing a long tear:** Stabilize the torn area of the mat by applying masking tape on the *inside* of the mat. Slip horizontal strips of tape every few inches under the torn area, and press the edges of the torn material together...so the mat looks like it did before the damage occurred, with the strips of tape underneath. Try to eliminate any wrinkles as you mate the material back together. This may take several tries to get it smooth. The tape will remain inside the mat there after the repair is made, but the benefits of a stable working surface outweigh this minor quirk.

Now, using a small, inexpensive brush for larger repairs, or your finger for small repairs, apply a layer of cement to the repair swatch on the “fabric” (rough) side of the material. Let both areas sit for a full 30 minutes.

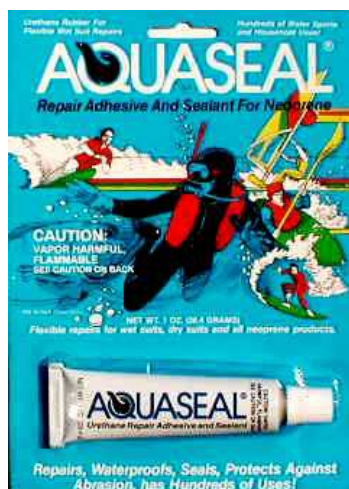
Apply a second layer of contact cement to the same areas. (You can use the same brush, even if it gets a little stiff and dry during the wait. The fresh glue will loosen it up again.)

Wait 15 -20 minutes, then press the swatch onto the torn area of the mat. Since the glue will bond as soon as the two glued surfaces touch, care must be taken when the repair swatch is applied.

After the repair swatch is in place, inspect to make sure that it’s smooth, and the cement has bonded all around the patch. Remove the masking tape from the repair swatch, and let the repair sit overnight before reinflating and using your mat.

## AquaSeal Repairs

Aquaseal is easier to use than the above mentioned contact cements, but takes longer to cure. After rinsing the damaged area and allowing it to dry, apply a generous amount of Aquaseal around the torn area, and apply a slightly oversized patch of the enclosed nylon repair material... again, with the fabric side down and the shiny side up. Make sure all the bubbles have been worked out of the glued area, and allow it to dry for at least 24 hours before using. It’s best to let the patch cure lying flat, in a horizontal position. This stuff is great for repairing small holes and tears.



## Other Repair Options:

Larger, or more complex repairs are possible, but **only if they have occurred to the two outer skins**. The I-beams, if damaged or torn, can't be repaired, because they are on the inside of the mat.

In the case of extreme damage to the outer skins, it's best to contact Edgespoon.com and your options can be evaluated. In some cases, mats which are too damaged to be repaired by the owner can be returned for repair. In other cases, where the damage is too severe to repair, it's time for a new mat. This sometimes happens...the same way a conventional board gets dinged up and is retired. The unique about 4<sup>th</sup> Gear Flyers is that they're made carefully enough that each one exhibits the same riding characteristics. There's no such thing as a "magic mat" that's irreplaceable...they're all good!

## In A Nutshell...

It's imperative that the bottom material of your mat be thin and pliable to allow the design to work it's magic in the water, but the downside is it can't stand up to extreme abuse. The longevity of a 4<sup>th</sup> Gear Flyer is dependant on how it's treated! When properly handled, 4<sup>th</sup> Gear Flyers can last many years of day in and day out use.

**Never leave it inflated with the valve closed while in the sun, or in your car.**

**Always store it in the shade, preferably hanging from a clip hanger or rolled up.**



**SPECIAL NOTE:**

**ALL 4GF MATS ARE SHIPPED WITH A HOT-WAXED DECK, UNLESS THE RIDER REQUESTS OTHERWISE.**



**DO NOT ADD MORE WAX WITHOUT CONTACTING US FIRST AT:**

[fourthgearflyer@yahoo.com](mailto:fourthgearflyer@yahoo.com)

# Frequently Asked Questions

## **Are 4GFs available in shops?**

Generally, no...but Mitch's North in Solana Beach and Sawyer Land and Sea in Santa Cruz often have a few in stock.

## **How do I order?**

Open our home page at [surfmats.com](http://surfmats.com), go to the dropdown list along the top, click on [surfmats](#), go through the options, choose a model, and order using the "add to cart" button.

## **Your home page appears to be a Paypal store. I don't have a Paypal account.**

You don't need a Paypal account to order from 4GF, just a credit card or debit card. Paypal allows you to shop with or without a Paypal account

## **Do you ship to PO Boxes?**

Yes, and we ship to PO Boxes anywhere in the world.

## **How much is shipping?**

Shipping is a flat fee of \$11.50 within the USA, and \$46.00 overseas. That amount is added automatically to your order, based on the address for your Credit or Debit card. If your credit card requires a different address than your shipping address, email us at [fourthgearflyer@yahoo.com](mailto:fourthgearflyer@yahoo.com) and we'll sort it out.



## **How long does it take to get my mat?**

We make every mat as a one-off after they are ordered, and we try to get them out within 48 hours of receiving your order. 2-3 days shipping time in the US, 1-2 week overseas.

## **What if my order goes through, but something is incorrect...such as the model choice, number of mats, or the shipping address. What should I do?**

Just email us and we'll get the order correct and resolve any money issues, ASAP.

## **Which end goes forward on my mat? Which side is the top?**

The valve should be on the front of the mat. The black canvas is the top, and the blue twill is the bottom.

## **Does the screw in the valve plug need to be twisted in with a screwdriver?**

No! The screw is just there to keep air from escaping and to hold the plug to the plug strap. Nothing more! Just moisten the shaft of the plug and insert it in the valve hole **by hand**. It should go into the valve hole most of the way in, but not all the way. No need to force it.

## **Can I attach a leash to my mat?**

Yes and no...

Leashes need an anchor point on a mat. And logically, that would be a grommet (or multiple grommets) installed along the mat's flange. The problem is that, sooner or later, any grommet is going to pull through the fabric and probably ruin the mat. This is true whether you use a leash, or a perimeter rope like the old rental rafts.

And, if you reinforce the area of the flange where a grommet is installed, it shifts the potential damage away from the flange and further into the mat's structure.

The other issue is the awkward nature of using wrist leashes...which are usually intended for body board use. Ideally, both hands should be free to hang onto the front corners of the mat to control it while riding a wave. Having a leash attached to your wrist interferes with that riding technique.

We've installed grommets on mats for individuals who absolutely have to use a leash for health reasons. Those customers also fully understood and accepted the risks of using a leash to the long term durability to their mat.

So far, the best approach we've found has been multiple grommets along the rear flange, and a bungee-cord harness system (with the leash attached to one of their ankles) to help diffuse the loading on the grommets in a wipeout.



In a nutshell, we discourage adding leash grommets to 4GF mats, but will entertain the concept in extreme situations. But...using a leash on a mat as a convenience is a mistake. Mats are easy to hang onto in the water!

If you want to use four grommets in the tail area, there is no upcharge. However, you have to make the bungee harness. And, you have to let us know you want the grommets at the time of purchase. We can't retrofit a built mat with grommets.

## **What are the dimensions of the 4GF models?**

We discourage discussion about mat dimensions for a number of reasons...details here:

<http://surfmatters.blogspot.com/2014/05/30-years-of-testing-and-tinkering-2.html>

The primary reason is that the numbers can't be correlated with the dimensions of body boards, paipo boards, or surfboards. What might seem long or short, or thick or thin, or wide or narrow on a surfboard, may be ideal on a mat. No matter how much experience a surfer has designing and riding conventional surfboards, that knowledge doesn't transfer to mats easily. Mats are a different animal!

A second reason is that variations which seem small on a surfboard (say, adding ¼" of width at the wide point) are enormous on a mat. Since mats are essentially cube shaped, an increase or decrease in one dimension is expressed equally along the entire length or width of a mat...and so it adds a tremendous amount of volume.

A third reason is that the dimensions of a mat vary according to the level of inflation during a given session in the water. A partially deflated mat is wider and thinner than the same mat which is fully inflated. And since mats are intended to be ridden at fluctuating levels of inflation based on the rider and the wave conditions, there is no concrete point of reference to judge one mat with another.

## **How long will my mat last?**

With even the tiniest bit of luck, a 4GF mat will outlast all but the heaviest glassed long boards.

Most likely, the only situations that can surely ruin a mat are leaving it inflated in a hot car, losing it extremely windy conditions, or aggressively riding up onto a rocky shoreline or over shallow coral. But those are relatively easy circumstances to avoid.

With proper care (like repairing small tears immediately, rinsing them off after a surf, and storing them out of the sun) 4th Gear Flyer surf mats are a very good return on a modest investment. We have heard from people who are still riding 25 year old 4GF's...and today's models are even more durable!

## **Can you duck dive a mat?**

Yes...but not nearly as effectively as a body board or a paipo board.

It takes some experience to get a feel for how to get through a set of broken waves on a mat, especially if the swell is over 5 or 6 feet. In the beginning, a mat will seem like a handful to deal with in the soup. But over time, the advantages of being on a mat in the lineup begin to reveal themselves. Mats are comfortable and safe to be on, and they are relatively easy to hang on to. And, in larger surf, if you are driven underwater in the impact zone, you can wrap your arms and legs around the mat, and it will rocket you to the surface the instant the energy of the wave begins to dissipate.

## **Performance-wise, how do 4th Gear Flyers compare to other mats?**

Obviously we can't be objective about that question. All we can say is 4GF mats have been around since 1984, and they are built and tested by the best mat riders in the world. Our own performance demands outstrip anyone else's in the water, and we seize every opportunity to improve the design and construction of our mats.

## **What kind of swim fins should I use with a mat?**

Everyone has a unique set of needs, so no one size or design fits everyone.

Most dive shops will let you test fins in their training pool, and many surf shops will allow swim fin returns if the fins have only been used once or twice. Check with them before you buy, and if possible do business with a shop that is willing to work with you.

The goal is to strive for the balance between comfort and power that suits you! As your swim fin experience and fitness level increases, your taste in fins will change as well. The best way to approach fins is seeing it as an ongoing learning experience. Don't expect perfection immediately.

Also, we strongly recommend wearing neoprene fin sox when using swim fins. They help prevent chafing of your feet, and minimize foot cramps. Even in warm water, they are of great benefit. Of course, make sure you wear fin sox when you try on fins. If you fit a new pair of fins to your bare feet, then use those same fins with fin sox, the fit will probably be too tight.