

## CHEST PROTECTORS, PRESSURE SUITS, AND IMPACT VESTS

I spent my whole vacation in the Moab hospital with broken ribs, collapsed lung, and a tube in my chest. My question is: "Would different armor have made any difference?" The answer is yes, for my crash anyway. Every one of the different types of upper body armor have their obvious advantages, you don't have to look very hard to see which one has coverage here and nothing there. But "*Which one is best?*" is a really tough question and probably more depends on what you hit, or what hits you. There are too many different manufacturers of these products to mention them all, but I will name gear that I've used or my riding buddies have. This is written in May, 2011, so things may have changed some by the time you read this.

### CHEST PROTECTOR / ROOST GUARD

The Chest Protector is like slipping on a turtle shell, with layers of good hard protection on your front and back. If you're racing and getting rocks thrown at you, you want a shield to deflect them. If you crash land on your back, or get run over while laying on the track wondering what the hell just happened, you'll be glad you bought one. They also have some form of pad for the top of your shoulders and are open on the sides. The big pieces of plastic armor are shaped to loosely curve around your torso and spread out any sharp point of impact over a larger area. Handlebar, footpeg- sound familiar? They don't have a lot of padding between the shell and your body so that cooling air flow is maximized. Try on several different ones and you'll find one that fits you much better than the others.

Advantages: Light weight, cool, easy on and off, great front protection from roost. The big plate spreads out a hard hit. Generally the least expensive and not restrictive if you find one that's a good fit for you.

Disadvantages: No protection around the sides of your body; so your ribs, liver and spleen are vulnerable. You're wrapped in a fairly low tech shell.

Availability: Motorcycle dealers will usually stock a couple, but the parts stores usually stock a big selection of these and you want to take your time and find one that fits good. Don't buy it for the color or decals if it isn't the best fitting of all that you've tried on. There's a new one out by Troy Lee Designs, #CP5955, that offers more padded shell around your sides and has more high tech adjustments than most. To me it's a good combination of the best that chest protectors and pressure suits have to offer, and the most comfortable I've ever worn.

### PRESSURE SUIT

The Pressure Suit is more high tech than the turtle shell approach, and usually more expensive. They have an articulated plastic spine guard that flexes with you for comfort, some padding on the chest, and most have a kidney belt. They are available in short sleeve so you can use your own elbow pads, or in long sleeve with pads attached that stay comfortably in place. There will be small pieces of padding in strategic places and usually something fancy on top of your shoulders. These are worn under your jersey but some guys simply wear them over a t-shirt when it's really hot.

The fit is meant to be snug to your body. Many of them use an open mesh fabric for cooling. The amount and kind of padding for the chest varies greatly, some use just a thin pad and others will use a piece of plastic over a fat pad. More padding equals better protection, and hotter. From what I've seen, I think the Rockgarden Flac Jacket has the best protection, but it may be more than you're looking for. This armor is popular with the downhill mountain bike racers.

Advantages: These are designed to offer protection in a crash rather than deflect roost. Some are lighter weight and less padded than others, so you can buy the level of armor that you feel comfortable wearing. They're great for street/dual sport riding.

Disadvantages: More expensive, hotter, and harder to get on and off than a Chest Protector, especially when sweaty. Most have either a token piece or no padding at all around the sides;

leaving your ribs, liver, and spleen vulnerable. With no solid chest plate your sternum is vulnerable too. These were originally designed by road racers so they are good for a slide, but we are more likely to get smashed by our own bike, the guys behind us, rocks / roots / trees, or the guys coming at us on a singletrack in the woods. If you hit something hard enough to break bones, will that 1/4" foam pad really make a difference?

Availability: Search motorcycle shops and bicycle shops for these, you really need to try it on before buying. I constantly fought with the first one I bought; it stabbed me in the neck, the elbow pads slipped, and it was terribly hot. My current one is so comfortable I could take a nap in it. Look around for a few different ones before you buy, you'll see big differences between them in fit and padding.

## IMPACT VEST

This is a relatively new and smaller category of riding gear that is specifically designed for impact protection. They fit like an insulated vest; thinner than a life jacket but usually thicker than you would wear under your jersey. There are several distinctly different ways they offer protection: a bull riders vest (PBR), air bags, or lots of thick padding. From state of the art high tech materials used in bullet proof vests to fancy pads in all the right places, these offer you choices that the other styles don't. I'm going to talk about some manufacturers of these that I'm aware of, it's unlikely that you'll find them in stores because they aren't the normal moto gear- yet.

Moto X Vest- Starting with bullet proof vest technology, adapted from PBR riders, this model is specifically tailored for motocross racing. All the professional bull riders wear this style vest, so if it's the best technology we have against *a couple thousand pounds of raging bull looking for revenge* then it sounds like it might work when your bike tosses you on your ass. It's made to integrate with most of the new "Leatt style" neck braces and is vented more than the bull riders model. The special padding and fabric spreads out a point of impact so you absorb it over a larger surface area, like the turtle shell, but on this vest the fabric is softer and conforms to your body. It doesn't have fancy looking shoulder protection like a pressure suit, but it wraps around your sides and covers your torso and organs from an impact better than anything else I've seen. "360° of ballistic protection" in a close fitting outer layer that you clean with a pressure washer; please don't test that *ballistic* claim, ok? I had a long phone call with Mick, the designer/manufacturer, he's a great guy and I recommend you give him a call. <http://motoxvest.com>

RXR chest and back protectors- An air bag for your upper body. Here's what they say: "The heart of the RXR is the bladder, multiple interconnected chambers allow air to pass through restricted passages that absorb the energy from an impact before it reaches your body. Clearly superior to the classic protection offered from foam or plastic." I only know one guy who has worn one, for a few years now, and he loves it. He'd broken ribs like me and thinks this thing is the best protection against doing that again. His also springs a leak now and then and needs to be patched. If you're looking for lightweight padding, there's nothing lighter than air. <http://www.rxrprotectnorthamerica.com/>

TekVest- Padding, pockets, protection, and a place to slip your hydration bladder: this thing is loaded with options. And expensive. They have a big following in the snowmobile market so that should give you an idea of how warm it might be. I've read good reviews and harsh criticisms; my buddy in Moab liked his a lot but it was too hot for him. It wraps fully around your torso so it will have better protection for your ribs and internal organs. For dual sport riding I don't think you could beat it, but it doesn't look like something you'd want to wear for a day at the track. <http://www.tekrider.com/>

A complete review on ThumperTalk here:

<http://www.thumpertalk.com/forum/showthread.php?ltr=T&t=946372>

Impact Armor- This company is popular with professional road racers. Like the Moto X Vest, it's *Rocket Science* materials but the pads are held in place by their skin tight leather race suit. It looks to me like it would not work well for most dirt riding but maybe they'll have something for us by the time you read this. <http://impactarmor.homestead.com/>

I wanted to include a lot of this kind of gear because the stuff specifically designed for "The Impact" is made with really high tech designs and materials, and it's hard to find. Some is custom made to order, and the others sell at 2 to 3 times the price of a chest protector; it's hard for a retailer to gamble on stocking it. For my crash, I believe I would have been sore but not hospitalized if I had been wearing any of this Impact gear rather than my pressure suit. (For sale, cheap, only used once)

I've read so many posts by guys who are switching between Pressure Suits and Chest Protectors because of "*too hot!*", or "*it didn't protect me when I crashed*", or "*there has to be something better / simpler / more comfortable*". With advantages and disadvantages for every style of armor, I couldn't find any piece that was the clear and absolute "*Winner!*" The problem is no one piece of this gear can protect us from every possible crash scenario, and nothing is going to save your collar bone if you put your arm out to break your fall. (Darn natural instincts) So how much armor and which kind you should wear is your personal choice. If you try to wear it all you're going to look like an armadillo and be about as fast too. The First Rule for buying is: If it isn't comfortable you won't wear it, so don't buy before really checking it out.



The author in his current riding gear:

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