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I forget what eight was for.



TECH

WHAT MAKES A GOOD CYCLOCROSS BIKE?

FOUR FRAME BUILDING MASTERS
SHARE DETAILS OF WHAT WORKS BEST
FOR 'CROSS RIGS.

WORDS BY DUNCAN MOORE

PHOTOS COURTESY OF TARIK SALEH, MIKE DESALVO,
TIM LEICESTER AND DOM MASON.

In an attempt to find out just what makes a good cyclocross bike, grit. cx spoke to four frame building professionals from both sides of the Atlantic to get their take on the good, the bad and the ugly of 'cross – Mike DeSalvo and Chris Kelly from the US and UK-based Tim Leicester and Dom Mason.

CALL-UP

Working out of Portland, Oregon, DeSalvo is an award-winning custom frame builder who has built so many bikes since he started in 1999, that he can't remember how many, other than about 35% of the frames he builds are for 'cross.

Chris Kelly built his first 'cross frame back in 1988, and has produced approximately 2,000 bicycle frames and 4,000 forks with around 50% of that output being dedicated to cyclocross. However, equally significant in the Kelly product line-up

is the Take Off, a small bracket that mounts a thumb shifter on the inside of a road bike brake lever on drop bars.

Moving back to the UK, Dom Mason is best known as the designer behind the original and hugely successful Kinesis UK Maxlight cyclocross frame. He followed that up with the Crosslight Pro, one of the first disc-specific 'cross frames in production, and is now operating as Mason Cycles – designing bikes in the UK and having them built in Italy.

Previously a frame builder for Mercian Cycles, Tim Leicester is now building for himself as the owner of Sword Cycles and is one of a new generation of custom frame builders in the UK willing to embrace new ideas. His achievements to date include building the prize-winning Best Utility Bike at Bespoked 2012.



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A SET APART

grit.cx set about finding out what sets the frames from these people apart from other more widely available machinery. Mike DeSalvo simply says: "I do my best to build frames that are the best I can while still keeping an eye on value." However, for Tim Leicester, it is much more to do with the rider's requirements. "I start with a blank sheet of paper, and I'd like to think that by including the rider heavily in the design process I'm able to translate their ideas and wishes into steel and provide the exact frame they'd envisaged. With custom frames, it's a practical question of nailing down the individual factors that are important to the rider and incorporating that into the design."

"I think there are a lot of similarities in today's frame designs. And let's face it, there're a lot of folks out there who simply copy what works based on a good handful of successful designs, which, in a way, is a good thing because it means that it's hard to buy a bad bike," says Chris Kelly.

"So, what sets my frames apart from the others? I really couldn't tell you. I'm too busy paying attention to what I'm doing in my shop on a daily basis that I really don't have the capacity to go out and compare that sort of thing. I leave it up to the people who enjoy looking at all the fascinating... or not so fascinating... bikes to make that analysis."

Similarly, Dom Mason is not too fussed with drawing comparisons with others. "I have a fixation with proper detailing, high-quality finish, innovation and using traditional materials and European craftsmen to produce a modern frame and bike with progressive features and thinking. I like to try and push things a bit."

TRADITIONAL DISCUSSION

Talk of steel as a frame material leads to the next, and indeed, one of the most contentious questions, behind whether discs brakes are good or bad: what is the best material to make a cyclocross frame from? One of the





most vociferous on this subject is Kelly. "I can't believe you're asking such a question! My favourite always has and always will be steel. I love the feel and compliance of steel, whether it's straight-gauge chromoly or the super-strong and incredibly sweet riding True Temper OX Platinum."

Leicester takes a similar point of view with his opinion: "I only build in steel for a number of reasons: toughness, tubing availability and strength, plus it's what I know from 11 years of frame building."

However, it's a very different answer from DeSalvo. Although he builds a lot of steel frames, he says: "I am a big fan of titanium for cyclocross

bikes. It has a great ride quality, is durable, and will not rust after too many post-race cleanings."

Mason is none too fussed about working with steel either. "If we are talking proper race bikes, then modern composite frames are pretty awesome for the job. You can tune the material and give the frame huge clearance by removing redundant material and bridges, etc." He continues by saying: "But I really like aluminium for a cyclocross frame. You can do some great stuff with modern aluminium tubing and a great deal that has been learnt from the development of carbon frames can be put to good use for an aluminium



PHOTO COURTESY OF SWORD BIKES





frame. As far as weight/stiffness goes, it's a great material for building a cyclocross frame, and also comfort isn't really a large consideration for racing cyclocross, although modern alloy frames can really be made to be comfortable too."

PARTICULAR DESIGN

However, it is not simply the choice of material that defines a good 'cross bike – the design behind it plays an equally important part.

"There are no tricks to designing a good 'cross frame," says Mason. "Just listen to the riders and produce the tool that they need for the job and add some new ideas and innovation along the way if possible. In my opinion, a race bike needs a steep head angle because you are often over the bars and going round a tight muddy hairpin in cyclocross. The head tube needs to be on the short side too, long head tubes don't lend themselves to the short-sharp acceleration or punchy climbing that is often involved.

"Top tubes need to be flat... sloping isn't so good for shouldering and reduces space too. Mud clearance is a major issue – for UK riders, you can easily end up carrying around another bike weight in mud with jammed wheels!"

Taking input from riders is a sentiment that is echoed in DeSalvo's thoughts on frame design. "I think the real key is listening to the rider and building a frame that fits their needs. If they are going to race, it is important to know the type of courses they will be racing on. Folks seem to have different ideas with regard to brakes, tyre size, and how exactly they will use the bike, so I have to take that into account and build a bike that will meet the rider's needs."

Listening to the rider's needs is also the main point that Leicester

makes. "A custom 'cross bike is like any custom Sword bike in terms of the design process – making sure the fit is right, getting the geometry to match the rider's tastes and riding style, picking tubes to match each individual rider in terms of stiffness, strength and specifying their choice of components."

Kelly has a slightly different take on the subject. "My thing has always been to let form follow function. My twist on cyclocross design has always been a nice lightweight road-styled bike that's mountain bike tough, has plenty of mud clearance and is fun to ride on-road as well as off-road and what I've ended up with is my tried and true Knobby X."

JUST STOP IT

Now, of course, on to perhaps the most contentious issue of recent times – cantilever or disc brakes. The market (read: major manufacturers) has dictated that disc brakes are the preferred option, but what do the experts have to say on the subject?

DeSalvo takes a fairly neutral view: "This is very much a personal preference. I like how well disc brakes work, but they still seem to be a bit of a weight penalty. Time will tell, but the industry seems to be going in the direction of disc brakes."

Leicester takes an equally neutral view. He comments: "That's more a question for each rider than for me as the frame builder. It is undeniably a driving force behind the increase in interest in new frames so, commercially, discs are a good thing."

However, Mason and Kelly have equally vocal and disparate views. Mason is very much in favour of disc brakes. "Why would we want to rub filthy rubber blocks against aluminium or carbon rims in an attempt to stop? It's steam-age technology. Disc brakes





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PHOTO COURTESY OF DeSALVO





PHOTO COURTESY OF DOM MASON



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PHOTO COURTESY OF TARIK SALEH





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are light now, and that was the main barrier for cyclocross racing before.

“You can also lighten the stays and lose the bridge because you aren't trying to force them apart by desperately hauling on ineffective cantilevers!

“Another important thing – when we developed our first disc-equipped 'cross bike, I was thinking about stopping power, but when I first rode a prototype it was like a 'eureka moment'. I instantly realised it was about control. Because you can be so light with the controls and tap the brakes from the hoods, you find yourself riding in a more fluid and 'loose' way, more like a mountain bike, letting the bike flap about and charging over roots.”

Now for Kelly's argument for cantilever brakes. “Back in '98, I began real-world testing disc brakes on my factory team Knobby X bikes at regional, national and world level cyclocross races.

“The first thing I learned was it was almost too much braking power on the front wheel. In foul weather conditions, everything got mucked up to the point where the brakes simply didn't function. Then there was the vulnerability factor. We had to be extra careful about not bending the rotor whether transporting the bike, performing a wheel change, or through crashing. The deciding factor was the difficulty of interchangeable wheels due to exact rotor placement that requires less than .002in of accuracy in order to function properly. In other words, you couldn't simply toss another wheel in the rear dropouts and expect it to work. Finally, there's the weight penalty.

“However, while I'm sure there'll be a disc brake equipped Knobby X (or two) in my future, my favourite set-up

has always been the standard V-brake with a Dia Compe 287V road lever and a pair of my Take Offs to handle the shifting.”

FORKS ON THE TABLE

Just as the brake argument divides opinions, so does the choice of what forks to use: steel or carbon fibre. Not surprisingly, Mason is a fan of the latter. “No contest – carbon is the best material for a performance fork. Light, stiff, tuneable, easy to achieve big tyre clearances without sacrificing stiffness and increasing weight. They've got everything important for cyclocross racing.”

However, others are more open-minded, especially Leicester and DeSalvo, who share the opinion that it is basically down to rider preference. “It depends on the rider, their preferences balanced against intended usage,” says Leicester. While for DeSalvo it's personal preference: “I am a fan of steel forks and like how they ride, but the weight penalty keeps them off of most of the bikes I build.”

However, for steel fan Kelly: “It's all about what I want the bike to ride and handle like. High-end, lightweight steel has always been the more compliant material that sucks up the bumps and high-frequency static that you feel from an overly stiff carbon or aluminium fork.”

IT'S UP TO YOU

While it would be nice to finish off by saying that there is an optimum choice of frame and fork material and brake types, for the ultimate cyclocross bike, it's simply not that easy. At the end of the day it is personal choice. Do you want traditional or modern, or a mash-up of the two? Only you can decide what makes your perfect cyclocross bike. ■