

AXLE

Standard cranks use a 24mm diameter steel axle but 30mm alloy axles are increasingly common. Axles can be permanently fixed to the driveside or non-driveside crank arm, or bolt on separately. Some DH bikes, Boost-hubbed bikes and fatbikes need specific longer axles.

BOTTOM BRACKET

There are three main types of BB shell on frames – traditional threaded, press-fit BB92 and oversize BB30 or PF30. Some cranks are designed to fit a 30mm axle into a small diameter BB, but not all manufacturers support all BB/axle standards.

SPIDER

The bridge between the crank arms and chainring. Some spiders are formed from the same block as the arms, some are permanently fixed in place and some are removable/replaceable.

CHAINRING

Nobody rides more bikes and cranks than Guy, but really focusing in on these vital components revealed some clear differences in performance and practicality, resulting in some surprise winners and losers.

CRANK ARMS

Can be alloy, carbon fibre or a hybrid of both. Either material can be solid or hollow, and alloy can be forged, machined or a combination of both. Lengths range from 165 to 180mm.

Words Guy Kesteven Pics Mick Kirkman

SINGLE-RING CRANKS

We've given 15 sets a good stomping, from affordable alloy to cutting-edge carbon

MBUK
Ratings

WE BASE OUR SCORES ON VALUE FOR MONEY AND PERFORMANCE

★★★★★

EXCEPTIONAL:
A genuine class leader

★★★★★

VERY GOOD: One of the best you can buy

★★★★★

GOOD: It'll do the job and do it well

★★★★★

BELOW AVERAGE:
Flawed in some way

★★★★★

POOR: Simply put, don't bother!



THE TESTER

Guy Kesteven

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JARGON BUSTER

> Anodised

Electrochemical cosmetic protection of alloy components. Sometimes coloured.

> Armature

An internal skeleton used inside a composite structure such as a carbon crank arm to increase strength and/or stiffness.

> Drive side

The right-hand side of the bike (viewed from the saddle), where the chainrings and other drivetrain components are mounted.

> Forged

Metal that's been melted (hot forged) or crushed/pressed (cold forged) into a mould to shape it.

> Machined

Metal shaped from a block (billet) by a cutting machine.

> Non-drive side

The left-hand side of the bike, where the brakes are.

> Preload

Pressure added to stop movement

– for example, by a threaded and clamped cap designed to stop adjustable bearings loosening.

> Press-fit

BB bearings that are pressed, rather than screwed, into the frame.

> Spline

Ridges on an axle, spider or crank

arm that mesh with grooves on the adjoining part of the crankset and stop them rotating in relation to one another.

HOW WE TESTED THEM

OUR TESTING IS DESIGNED to mimic the likely life of your cranks, but in the most demanding and occasionally deliberately dumb way possible. That starts from opening the box and seeing if fitting is self-explanatory and any special tools required actually work. Then it's just a case of giving each set of cranks as much abuse as we can, exposing them to brutal landings, ankle-jarring boulder strikes and mile after murderous mile of winter grit. As well as getting as much time in as possible on our test sets, we harvest data from other trusted users in as many diverse riding environments as possible. Finally, we get them all back together and ride them back-to-back to compare stiffness, chainring feel and other performance indicators. We also check them for cosmetic and mechanical wear to see which have held up best over time. Then we double-check weights in the workshop, confirm available formats with manufacturers and turn months of hard riding into trail-proven reviews.



What to look for

Which 1x crankset is right for you?

WHETHER YOU GO for a factory 1x11 transmission or build your own 1x10 set-up by throwing away your front mech and shifter, single-ring transmissions are a great idea. They increase tyre and bar space, reduce weight and leave less to go wrong. Of course, you can just stick a single chainring on standard cranks and throw the other rings away. But a 1x-specific crankset should hopefully be lighter and neater.

The first thing to check is what cranks fit your bike. If you have a press-fit or BB30 bottom bracket it makes sense to get cranks with a matching oversize axle. Some crank/BB systems (Race Face Cinch, FSA BB392, Hope, e*thirteen, Rotor) let you fit a fat 30mm axle into a regular BB shell. The more standards your cranks are compatible with, the more transferable they'll be to future frames/bikes. Once you've narrowed down which cranks will fit your frame, it's a question of the usual low weight versus high strength balance.

While cheaper narrow/wide-ringed cranksets are likely to appear from Shimano in the wake of the new XT, £150 is the current bottom line. For upwards of this we'd expect to get cranks that are either lighter or stronger, or slightly lighter and slightly stronger if going for a compromise. There's a big variation in weight between different cranks, but their position at the bottom of the frame means this makes less of a difference in dynamic terms than



it does with other bike parts. What you will notice is any flex or weakness, because the cranks are the first line of power transfer and traction/control feedback through your feet. We'd always err on the side of strength over weight loss.

Not all brands deliver a linear progression in performance as prices rise. Some make great basic cranks but fail with flexy or not particularly light flagship models. Others make outstanding premium cranks but disappointingly anonymous affordable ones. Don't forget to factor in BB and chainring lifespan too, because that affects value over time.

If the cranks, BB and chainring are offered separately it can be worth mixing and matching parts to get the best complete package price. Double-check everything is definitely compatible to avoid ending up with a Frankenstein's monster of a crankset though. For practical long-term reasons we'd be wary of models that require special tools for fitting or servicing – you don't want to find yourself stranded mid roadtrip because the local bike shop doesn't have the right equipment to help you. »



WEIGHT: 614g
ARMS: 170, 175mm

SRAM X01

£315 Fisher Outdoor Leisure www.fisheroutdoor.com

SRAM DESERVE A ton of credit for freeing the MTB world from front shifters, mechs and chain guides. Unfortunately their carbon crank arms are off-pace compared to the best in the category. The 30mm axle option (£340) adds stiffness but there's still noticeable arm flex when you press the pedals hard. That's despite the fact they're significantly heavier than the carbon competition from Race Face and FSA. They're

slightly cheaper though, and SRAM's X-SYNC chainrings are among the quietest and most secure around. Spiders are interchangeable if you decide to double up on rings, or you can lose weight and tune gearing with their vast range (26-40t) of direct-mount rings. The X0s last well cosmetically too, especially now you get rubber tip protectors as standard.

MBUK ★★☆☆☆



WEIGHT: 584g
ARMS: 170, 172.5, 175mm

Aerozine XONE-A1

£139.99 Nrg4 WWW.NRG4CYCLING.CO.UK

AEROZINE'S SINGLE-RING cranks are a useful option for less aggressive riders looking to save some weight and money. The broad-but-shallow forged arms and direct-fit ring make them the lightest alloy cranks here apart from Shimano XTR. Reversible pedal plugs allow 170 or 175mm effective lengths (172.5mm plugs are £13.99) without changing the actual arms. The price also includes a decent external-cup BB, but there's

no 30mm option. The arms are noticeably flexible when you stomp your foot down under power or rail hard through corners. The rings are flexible too, and the simple narrow/wide tooth profile is slightly noisier and less secure than others here. The three-bolt fixing is SRAM compatible though, so there are plenty of aftermarket alternatives that'll fit.

MBUK ★★☆☆☆



WEIGHT: 654g
ARMS: 165, 170, 175mm

Hope Cranks

£270 (spiderless) Hope Technology www.hopetech.com

HOPE'S METICULOUSLY UK machined cranks are big on long-term durability and security but low on stiffness and dependent on proprietary tools. The solid, sculpted arms are available in a wide range of anodised colours, with extensive laser etching keeping high-wear areas raw so they don't show scuffing. The extra security plug that fixes the cranks in place is designed to stop creaking or movement even

after repeated removals. There's a choice of double or single-ring spiders or the six-arm 'spiderless' ring option we tested, which saves 70g and £20. Hope's BBs are super-smooth and allow the 30mm axle to fit in any shell. The cranks are physically flexy under power though, and depend on three different tools for crank and spider removal.

MBUK ★★☆☆☆



WEIGHT: 137g
ARMS: 170, 175mm

Gravity GRID MegaExo Megatooth

£249.95 Windwave www.windwave.co.uk

THE HOLLOW FORGED, rectangular section arms of the new GRID cranks are permanently fixed to a deep 3D sculpted, square tipped spider. That makes for a reassuringly solid feel underfoot for accurate feedback and direct power delivery even with the conventional diameter MegaExo axle. Gravity don't offer BB30 or BB392 cranks so you'll have to use adaptors if you've got a large-bore frame. The fractionally taller profile seems to

make the 'Megateeth' more vulnerable to snapped tips than other narrow/wide designs if you sump out on a boulder, but at least the conventional 104/64mm bolt circle diameter means the GRIDs are compatible with most aftermarket replacement rings. This crankset will take an inner chainring too, but both weight and price are relatively high.

MBUK ★★☆☆☆

FSA K-Force Light ABS BB392EVO

£449.95 Windwave www.windwave.com

FSA'S NEW FLAGSHIP single-ring crankset is a great choice for powerful riders wanting to save weight. The boxy hollow carbon arms with co-moulded spider and oversize 30mm axle are seriously stiff, no matter how hard you brace yourself against the bar and strain the pedals round. The BB392 axle/BB standard will fit BB30, PF30 and smaller diameter press-fit or threaded frames with the right adaptors. At a

fraction over 450g, the K-Forces offer a big weight saving over most cranks too. The machined alloy chainrings use a unique 'ABS' bolt spacing, but FSA have a decent range of chainring sizes (30-36t). The subtly hooked, extended 'Megatooth' design is acceptably secure but beware of tooth-chipping boulder strikes. High performance equals a high price too.

MBUK ★★☆☆☆



WEIGHT: 452g
ARMS: 170, 175mm

Shimano XTR Trail M9020

£349.98 Madison www.madison.co.uk

SHIMANO'S FLAGSHIP TRAIL cranks are mechanically ultra-durable and biomechanically versatile but heavier than the carbon competition. The hollow arms and spider are forged in one piece for serious stiffness and increased strength over the slightly lighter bonded arms on the XTR M9000 XC cranks. The spider works with single, double or even triple chainrings but the asymmetric pattern is unique to

Shimano. You're not likely to replace them frequently though, because the titanium teeth in a carbon composite sandwich are showing no signs of wear after a full year of use. The multi-ring spider and big-ring clamping blocks on the outside edge make it 100g heavier than the lightest carbon competition though, and there's no 30mm axle option.

MBUK ★★☆☆☆



WEIGHT: 565g
ARMS: 165, 170, 175, 180mm

Race Face Atlas Cinch

£209.90 Silverfish www.silverfish-uk.com

THESE LONG-RUNNING Canadian cranks have been updated with Race Face's excellent Cinch system to create a versatile and user friendly hardcore crankset. The cold forged, pocketed-back arms are heavy but they're solid underfoot for direct torque transfer and traction feel. The Cinch system uses a stiff 30mm axle teamed with BB options compatible with all frame standards, from PF30 to old-school screw-in.

Separate arm and ring adds cost over complete packages like the Turbine Cinch but give you more colour and ring size options plus 180mm arm lengths. The axle is fixed to the non-driveside arm so it's easy to remove the driveside arm to replace worn rings, and the threaded Cinch locking uses a relatively common BSA30 BB tool.

MBUK ★★☆☆☆



WEIGHT: 707g
ARMS: 170, 175, 180

Race Face Turbine Cinch

£179.95 Silverfish www.silverfish-uk.com

RACE FACE'S TURBINE cranks share the same pocketed back casting as the super-sturdy Atlas but with more metal machined off the front to achieve a more trail friendly weight. There's no obvious loss in the ample stiffness either, though there is less metal around the axle end of the arms to cope with particularly brutal landings. If you're happy with black and a 30, 32 or 34t tooth ring, and don't need 180mm arms, this

package saves £15 over separate cranks and rings in a wider range of colour and size options. Either way, the 30mm axle carries useful stiffness right through the frame and the Cinch BB menu is all frames and even fatbike compatible. The removable driveside arm and simple BB-tool-driven locking make switching chainrings simple too.

MBUK ★★☆☆☆



WEIGHT: 643g
ARMS: 170, 175mm



WEIGHT: 600g
ARMS: 170, 172.5, 175mm

Rotor REX 2.1 QX1

£268 Velotech Services www.velotechservices.co.uk

THE REX 2.1S are impressively stiff, lightweight and multi frame compatible, even if you don't buy into Rotor's asymmetric chainring concept. They're made from 7075 alloy rather than the 7055 used on the pricier REX 1.1s, which adds 42g. But they're still relatively light, and the internally triple-drilled arms are just as stiff under power. The cunning reverse crank-cap makes them easy to get on and off, and the

oversize axle syncs with a selection of BBs to fit all frames. Check spacing and clearances though – the straight arms don't give much chainstay space. The oval QX1 rings have to be bought separately and can be moved between three positions to alter their unique, dead spot minimising feel. If you're not convinced, SRAM spiders are also available.

MBUK ★★★★★



WEIGHT: 691g
ARMS: 165, 170, 175mm

Turn GIRDER M30

£229.99 Upgrade Bikes www.upgradebikes.co.uk

DURABILITY KINGS PRAXIS have joined up their BB and chainring offerings with these bomber cranks. The huge box-section arms can scuff ankles if you pedal duck-footed, but their massive stiffness is obvious as soon as you put foot to pedal. Add an oversize 30mm axle and they haven't flinched or flexed under even our most hardcore testers. Ground clearance/low BB fans will be glad of the short 165mm arm option, and

they're not as heavy as you'd expect. The spider is fixed and UK distributors Upgrade only offer a 32t version as a complete package (30-38t options sold separately), but the ultra tough, impressively secure cold-forged Praxis chainring won't need replacing any time soon. Praxis's BBs (£34.99-59.99) are equally durable, and available to fit all frames.

MBUK ★★★★★



WEIGHT: 685g
ARMS: 170, 175mm

SRAM GX-1400

£155 Fisher Outdoor Leisure www.fisheroutdoor.co.uk

SRAM'S GX-LABELLED cranks offer great all-round performance at an affordable price. The hollow-forged arms are plenty stiff and can handle a battering without obviously suffering. The three-bolt splined crank mount makes it easy to swap between single or multi-ring spiders or direct-mount rings. The X-SYNC chainring teeth still set the standard for quiet-running security, and steel versions are now available

aftermarket for high mileage/foul weather use. The arms last much better cosmetically than Shimano's rival XT cranks too, though protective tape is still wise. There's a 30mm axle version (£180) to increase stiffness and lose 14g, or you can get the same spider, direct ring and axle options with the solid-forged GX-1000 cranks for just £95.

MBUK ★★★★★



WEIGHT: 869g
ARMS: 165, 170, 175, 180mm

Shimano Deore XT M8000

£149.98 Madison www.madison.co.uk

SHIMANO'S NEW XT crankset is even more mechanically durable than its legendary forebears but it looks scruffy faster than ever. The hollow-forged arms and fixed spider are impressively stiff for powerful torque transmission and precise trail feedback. Separately bought chainrings allow ratio choice and the steel teeth set in a carbon composite sandwich are super-durable even in UK conditions. The low-scooped DCE

tooth profile is amazingly secure too. Installation onto the steel axle is simple and secure, with Boost axle versions now available but still no 30mm options. Double or single-ring mount holes add weight over the direct-fit competition too. The black finish needs protective taping to stop it looking six months old after only a couple of hours.

MBUK ★★★★★

MBUK
WRECKED & RATED
Group Test

WINNERS

Tester says...

“Having taken the cranks on most test bikes for granted, focusing on them individually threw up some dramatic differences. The good news is there are more user friendly, long-term tough cranks available than ever before, and they don't have to cost a fortune.”



WEIGHT: 661g
ARMS: 165, 170, 175mm

MBUK
WINNER

DMR Axe

£179.98 Upgrade Bikes www.upgradebikes.co.uk

CONSIDERING THE HUGE amount of experience some of the other brands here have when it comes to making cranks, DMR have done an amazing job producing the set that consistently impressed us most. There's more shared between the Turn and DMR cranks than just their UK distributor. The broad arm profiles are similar, and the fixed-and-bolted attachment hardware between the arms and the stepped 30mm to 28mm axle are identical. The DMR cranks are shallower though, which means they don't sting your feet as much across rock gardens. They're still more than stiff enough for the biggest cornering G-pullers or pedal-bending sprinters though, and the 30g weight loss means a closer match to the SRAM and Shimano

competition. While the dimensions and oversize alloy axle are shared, DMR have flipped the attachment ends so that the driveside arm is now the removable one. That makes it much easier to change the direct-mount rings. The scalloped three-bolt attachment is compatible with all SRAM-style direct-mount rings and spiders too, making the separate arms (£139.99) and ring (£39.99) system even more versatile. The Praxis BBs that the Axes are compatible with are our benchmark for easy 'any frame' installation and smooth durability too, completing a triumphant surprise win debut for the renowned UK dirt jump and hardcore riding brand.

MBUK ★★★★★



WEIGHT: 693g
ARMS: 170, 175mm

MBUK
VALUE

Race Face Ride

£99.95 Silverfish www.silverfish-uk.com

OFFERING ALL THE single-ring essentials for £40 less than the nearest competition, our Value Award winning crankset was obvious right from the start of the test. Race Face's Ride cranks are slightly heavier than more expensive units and there's no oversize 30mm Cinch option, but the steel EX1 axle doesn't feel obviously soft or flexy underfoot. The included 3D-machined narrow/wide rings in a choice of 32 or 34t

sizes are secure, durable, laser-etched items that would cost you £36.95 if bought separately. If single-ring life turns out not to be for you then the co-moulded spider also works with twin or triple-ring set-ups. You even get a half-decent threaded BB included, which you can always barter with even if you need a different standard.

MBUK ★★★★★



WEIGHT: 441g
ARMS: 170, 175mm

MBUK
MOST WANTED

Race Face Next SL

£369 Silverfish www.silverfish-uk.com

WHEN WE STARTED riding these ridiculously light carbon cranks we tiptoed round waiting for them to explode when we rode off a kerb. But after a year of increasingly abusive behaviour on several different sets that's seen several wheel breakages and cartwheeling high-speed crashes, we've not had a single issue with them. They're very stiff when sprinting or driving through a berm, with the Cinch BB system extending

30mm axle rigidity to any frame. The user-friendly mount lets you swap out the supplied direct-mount ring for a twin-ring spider and you can even get fatbike width cranks. The naked carbon fibre finish is protected with thick name stickers to keep them looking good, and they're not even excessively expensive considering their totally outstanding performance.

MBUK ★★★★★