

HITORQUE MX & M HITORQUE ROAD

E\\ Manual. 20190923

Please read the entire manual thoroughly before using or maintaining the hubs. This manual provides you with basic construction features of Syntace hubs as well as instructions on how to maintain and repair them. Please make sure that the services shown require the usage of special tools as indicated.

As we are constantly working on our products in order to improve them, your hubs may differ from what is displayed in the graphics below. For the latest version of the service documentation, visit the Syntace website www.syntace.de and rely on the latest manual as published there.

ADVICE: You will also find a series of instruction and service videos on our website which we recommend to watch besides reading this manual.

IMPORTANT NOTE CONCERNING THE FUNCTION OF THE HUB:

- When brand-new, you will notice a slight rolling resistance of the hub, which is a result of the fact that it is not run in yet.
- Damaged parts should never be "fixed" but exchanged as they might not work properly otherwise and thus may lead to hazardous injuries!

USAGE AS INTENDED

Syntace hubs are to be compatible with your bike with regard to the dimension standards of your frame, the fork, the brakes, the cassette and the rim. Syntace hubs are designed for being used in bicycles exclusively. Building a wheel with a radial spoke arrangement is inappropriate! The HiTorque RS Front hub is the only exception for this. Disc hubs are to be assembled with the original screws of the brake discs only.

The maximum system weight for HiTorque RS Hubs is 130 kg.

There are no restrictions as to the intended usage of Syntace mountain bike hubs Syntace HiTorque M and MX, including downhill riding.

The maximum system weight for HiTorque M / MX Hubs is 150 kg.

The Syntace road hubs HiTorque RS and RS Disc are approved for road and cyclo-cross riding as well as triathlon.

Mounting

- All Syntace hubs are ready to ride the way they are delivered. The axial bearing clearance, however, should be tuned when the hubs are mounted. For further details, please refer to the description in „Tuning the axial bearing clearance“ on page 6.
- If you need different end caps for your Syntace hubs, please read „Exchanging end caps and changing the axial standard“ on page 7
- In case you are not familiar maintaining wheels and taking care of them, please leave it to a specialist.

ADVICE: You will also find a series of instruction and service videos on our website www.syntace.de which provide you with detailed descriptions of services. We recommend watching them besides reading this manual.

Compatibility

Syntace mountain bike hubs are compatible with the following axle standards:

HITORQUE MX, STRAIGHT MX

- FW: 15 x 100 mm
FW: 15 x 110 mm Boost (with special hub, no solution available with adapters!)
- RW: 12 x 142 mm
RW: 12 x 148 mm Boost und EVO6 (with special hub, no solution available with adapters!)

HITORQUE M

- FW: 15 x 100 mm
FW: 20 x 110 mm
RW: 12 x 142 mm

Syntace road bike hubs are compatible with the following axle standards:

HITORQUE RS

- FW: 9 x 100 mm (Quick Release)
RW: 9 x 130 mm (Quick Release)

HITORQUE RS DISK

- FW: 9 x 100 mm (Quick Release)
12 x 100 mm (Through Axle)
15 x 100 mm (Through Axle)
RW: 12 x 142 mm (Through Axle)

Hub design and bearing clearance

All Syntace hubs feature axles without shoulders leaving out support bushes between the bearings. This means that we are able to compensate the accumulation tolerance, which – technically – is impossible otherwise. And it saves a considerable amount of unnecessary weight.

What this means in reality? All components of Syntace hubs are lined up on the axle with the same diameter, leaving the bearings without any horizontal pressure at all. It is thus to be preferred to have 0.1 mm of bearing play rather than any pressure on the bearing.

The Syntace MicroAdjust end caps eliminate bearing clearance, which is inevitable as a result of our hub design, no matter which through axle standard is used.

Tuning the axial bearing clearance

The Syntace MicroAdjust end caps are designed for tuning the axial bearing clearance. The end caps consist of three individual parts: a fixed one, a twistable ring and a M3 stainless steel screw. Before the end cap is pressed onto the hub, the ring is to be twisted counterclockwise to the thread's limit.

NOTE: Do never adjust the axial bearing clearance when the hub is not mounted. The bearings might otherwise get harmed when being mounted in the frame or fork already. Only once the wheel is mounted in the frame or fork and once the quick release or through axle is closed according to the manufacturer's indication, the bearing clearance is to be tuned.

WITH ALL MICROADJUST END CAPS, FOLLOW THE STEPS BELOW:

1. With all MicroAdjust end caps, follow the steps below: Loosen the silver screw of the MicroAdjust end cap with a 2.5 mm Allen key.
2. Twist the black adjustment ring of the cap counterclockwise to the thread's limit.
3. Before putting the wheel into the bike, compress the fixed end cap firmly onto the hub making it sit directly on the bearings.
4. Mount the wheels in your frame or fork and close the quick release or through axle according to the manufacturer's instructions. Doing this, push the wheel towards the fixed end cap again.
5. Now twist the adjustment ring clockwise until you feel a slight resistance.
6. From this point, twist the adjustment ring backwards for 5 mm (in rotation, not horizontally) and tighten the silver screw with 0.5 Nm. Newer MicroAdjust end caps feature a scale that will help you to find the right adjustment described above.

The bearing clearance of your hub is now fully adjusted. It needs to be changed only in case you mount your wheel into a different frame or fork. In this case, restart the adjustment process with step one again.

ADVICE: If you do not have a torque meter at hand, take the short end of your Allen key and twist it with two fingers and with very little torque only. This way, you will reach the approximate torque value as well.

Exchanging end caps and changing the axial standard

For changing the axle standard you may follow the instructions below. The procedure is the same for both the front and the rear wheel. It goes without saying that the obsolete parts for the front hub are to be ignored.

1. Insert a wooden or plastic stick into the hub and carefully batter the onepiece, black end cap off the axle.
2. With MX Front 15 mm and 9 mm quick release end caps, you need to clamp the one-piece cap horizontally in a bench vise. Apply very little pressure only and use Aluminum clamping jaws that fixate the cap at four points. From bottom to top, now carefully batter against the rim until the cap comes loose.
3. Starting at the side of the MicroAdjust end cap, pull the axle out of the hub. For the rear hub, you need to take off the freehub first, which is attached to the hub only via the axle.
4. Loosen the silver MicroAdjust screw. Hold the axle tight and batter off the other end cap with a stick from the inside.
5. The new end caps can now be mounted by being pushed on the axle. Start with one cap and insert the axle in the hub thereafter.
6. As to the rear hub, you need to take care of putting the rear axle back in in the right direction. You will find two small bores in it. The bore closer to the end of the axle is to be put on the side of the freehub.
7. As to the front hub, it is possible that nothing but the golden part of the MicroAdjust is to be exchanged. It can easily be twisted off the cap.
8. Now push the second end cap on the axle.
9. As the final step, adjust the bearing clearance of the hub as described in „Tuning the axial bearing clearance“ on page 6

Caring, maintaining and security of hubs

NOTE: After servicing your hub, make sure you reassemble your hub correctly.

ADVICE: You will find a series of instruction and service videos on our website www.syntace.de, which we recommend watching besides reading this manual.

The correct maintenance and caring of Syntace hubs leads to a long durability and reliability. Syntace hubs are designed in a way that every customer can service them without particular skills or special tools. It is crucial, however, that you follow precisely the steps and instructions as described in this manual. In case of doubt, please find help at a Syntace/ Liteville Works Station or a Syntace/ Liteville dealer.

Avoid cleaning the hubs with high-pressure water blasters! Doing this, water and dirt can get into the hub, which immediately destroys the bearings. Do never use slow-moving, thick paste greasing your tooth washers. Tooth washers are to be greased with Syntace Silent Lube. One milliliter of the oil is sufficient for one hub service.

Maintenance frequency

The rear and front hub should be serviced at least annually. It can be necessary more frequently in case the wheels are facing a lot of rain, dirt, transportation on the rooftop of a car or when used for racing

THE MAINTENANCE CONSISTS OF THE FOLLOWING STEPS:

- Checking the spoke tension, the even run and the overall attrition of the wheel
- Examining the rim and spokes for possible damages
- Examining the hub and freehub as well as the bearings
- Maintenance of the free hub mechanism

Maintenance procedure:

Follow the steps below to service your hub correctly. The procedure is the same for both the front and the rear wheel. It goes without saying that the obsolete parts for the front hub are to be ignored. Before starting the service, thoroughly clean your wheel in order to avoid dirt to get into the hub.

ADVICE: Actions speak louder than words! This is why you will find an instruction video including all individual steps to follow in the service area on the Syntace website www.syntace.de. Please watch the video besides reading the manual below.

DISMANTLING THE HUB:

1. Insert a wooden or plastic stick into the hub and carefully batter the onepiece, black end cap off the axle.
2. With MX Front 15 mm and 9 mm quick release end caps, you need to clamp the one-piece cap horizontally in a bench vise. Apply very little pressure only and use Aluminum clamping jaws that fixate the cap at four points. From bottom to top, now carefully batter against the rim until the cap comes loose.
3. You can now take the freehub off the axle and the tooth washers out of the hub.

SERVICING THE HUB:

1. Clean all constituents of the hub with cloth that has been saturated with alcohol.
2. Examine the bearings by twisting them with a finger from the inside. In case they do no longer run smoothly, exchange them as described in "Exchanging bearings" on page 16.
3. Look for corroded or damaged parts in the hub with special focus to the tooth washers. The four springs are to be equally long.
4. Later models of Syntace rear hubs work with one central spring only. Examine it in the same way. The bends must not cross each other when the spring is compressed.
5. Apply one milliliter of Syntace Silent Lube on the tooth washer.

ASSEMBLY OF THE HUB:

1. Starting in reverse order, assemble the hub.
2. Push the end caps on the axle firmly by laying the wheel on a table with the opposite end cap pointing downwards.

Exchanging bearings

The bearings are to be examined before the hub is reassembled. In case bearings need to be exchanged, the following bearing kits are available:

- Item number 115385: Bearing Kit HiTorque MX
Designed for the small MX Front 15 hub with 28 or 32 spokes.
- Item number 115392: Bearing Kit HiTorque M/MX
Designed for big MX Front 20 hubs with 32 spokes and M Series hubs with 28 and 32 hubs.
- Item number 115378: Bearing Kit HiTorque M/MX
Designed for all M and MX rear hubs.
- Item number 141919: Bearing Kit Straight Front TQ
Designed for Straight MX Rear Hub with 20 mm hubs.

NOTE: Please refer to a Syntace/ Liteville Works Station or Syntace dealer for exchanging the bearings of your hub. Work Stations are equipped with special hub tools. Common bike dealers might be equipped with them only upon request.

MATERIALS DEFECT LIABILITY AND WARRANTY POLICY

Apart from the legally fixed two-year warranty, Syntace GmbH offers a 10-year warranty starting on the day of purchase. This warranty includes all material damages and manufacturing defects. The only requirement is that the components have been mounted, used and maintained according to the Syntace manual.

SYNTACE WHEELSETS 3 + 7 USAGE DEDUCTION:

The repair or exchange of a wheel or its components, in case of a material damage or a manufacturing defect, is for free during the first three years. Until the 10th year after the purchase, we generally charge 50 % of the current recommended retail price.

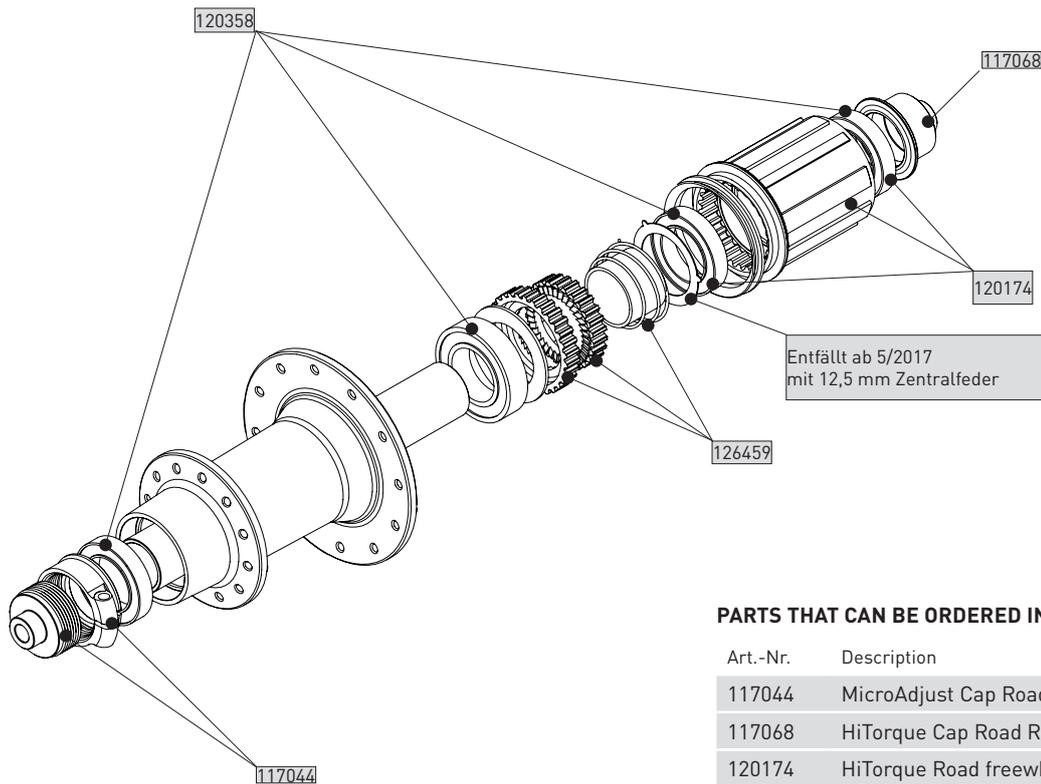
This warranty does not include wearing parts or replacements necessary after improperly violent impacts (particularly with regard to spokes and rims). Furthermore, incorrect mounting, maintenance or repair is excluded.

Please find further information on our warranty policy and handling here: www.syntace.de/support

Please note that for your individual product, we generally refer to the latest manual, which you will find here: www.syntace.de/support



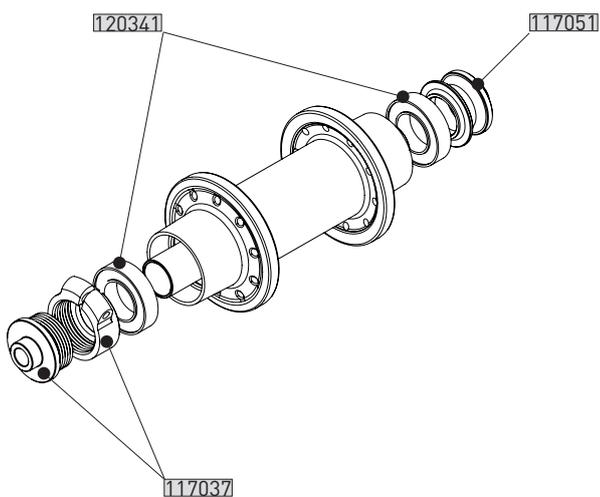
SYNTACE HITORQUE ROAD REAR



PARTS THAT CAN BE ORDERED INDIVIDUALLY:

Art.-Nr.	Description
117044	MicroAdjust Cap Road Rear
117068	HiTorque Cap Road Rear
120174	HiTorque Road freewheel body, inkl. Lager
120358	Bearing Kit HiTorque Road
126459	Crown Gear Ratchet Kit Road, inkl. Zentralfeder

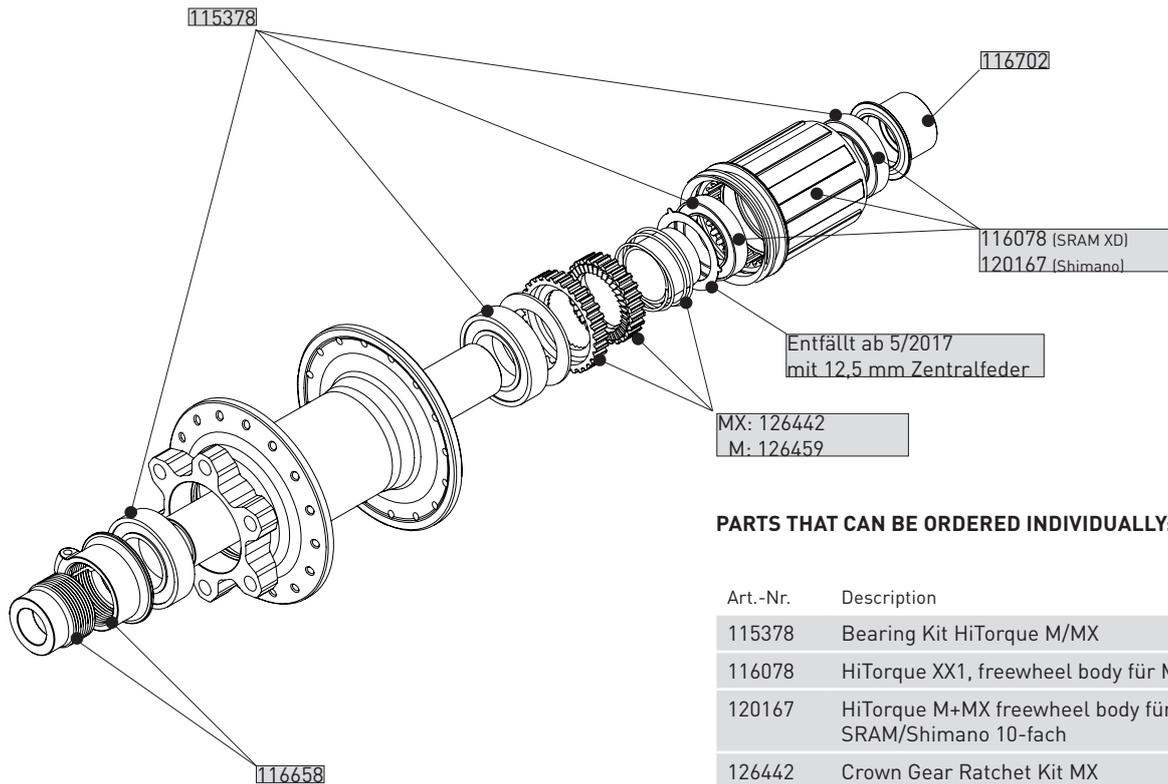
SYNTACE HITORQUE ROAD FRONT



PARTS THAT CAN BE ORDERED INDIVIDUALLY:

Art.-Nr.	Description
117037	MicroAdjust Cap Road Front
117051	HiTorque Cap Road Front
120341	Bearing Kit HiTorque Road Front

SYNTACE HITORQUE MTB REAR (MX + M)

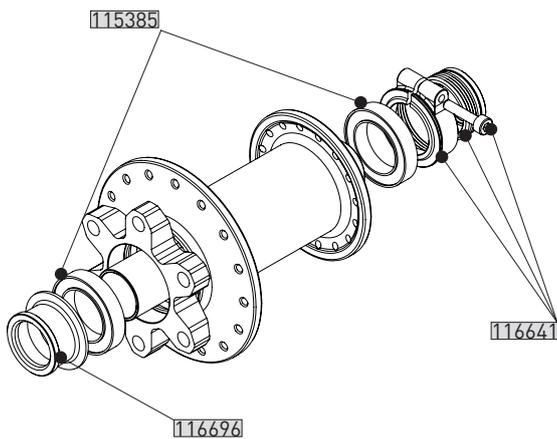


PARTS THAT CAN BE ORDERED INDIVIDUALLY:

Art.-Nr.	Description
115378	Bearing Kit HiTorque M/MX
116078	HiTorque XX1, freewheel body für M/MX, SRAM 11-fach
120167	HiTorque M+MX freewheel body für M/MX, SRAM/Shimano 10-fach
126442	Crown Gear Ratchet Kit MX
126459	Crown Gear Ratchet Kit M/Road
116658	MicroAdjust Cap Rear 12, 142 x 12

SYNTACE HITORQUE MTB FRONT (MX + M)

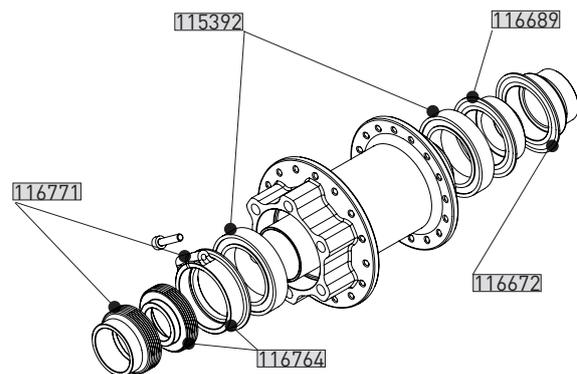
HITORQUE MX:



PARTS THAT CAN BE ORDERED INDIVIDUALLY:

Art.-Nr.	Description
115385	Bearing Kit HiTorque MX für MX Front 15, 28/32 Loch
116641	MicroAdjust Cap Front 15, 15 x 100 mm, 15 x 110 mm
116696	HiTorque Cap Front 15, 15 x 100 mm, 15 x 110 mm
130456	Syntace MicroAdjust Cap Kit JB RSTC for MX Front 15mm 100/110

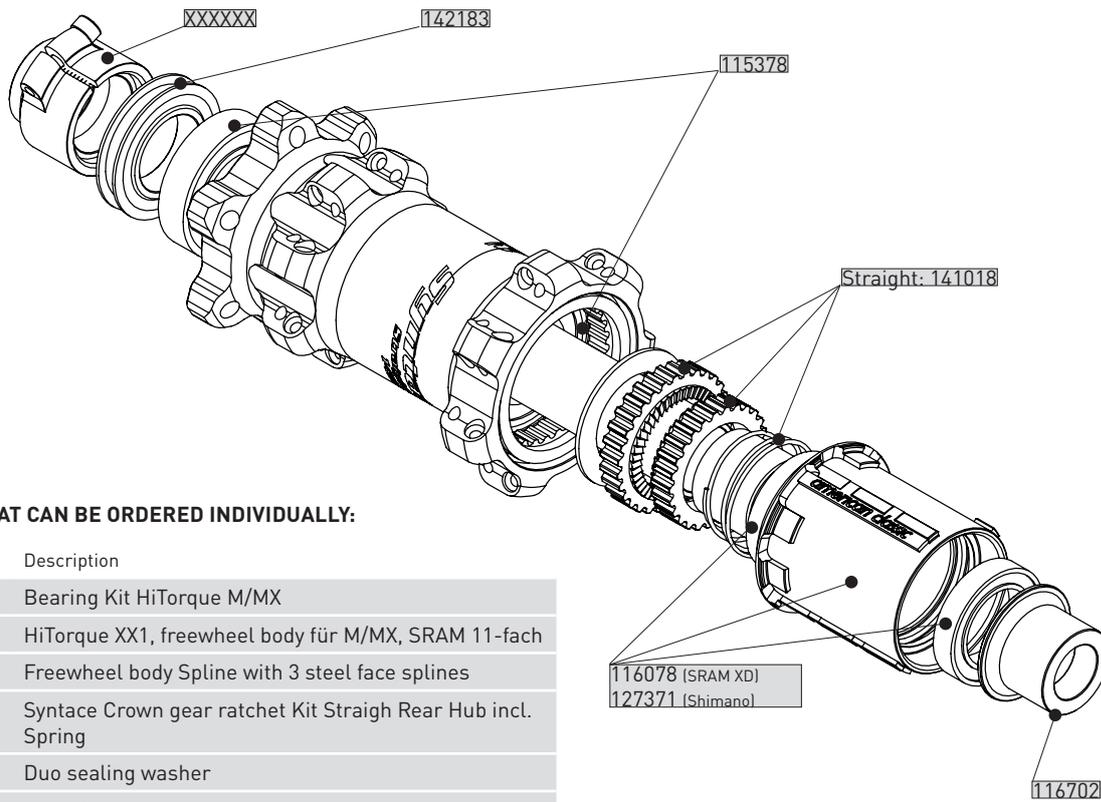
HITORQUE M:



PARTS THAT CAN BE ORDERED INDIVIDUALLY:

Art.-Nr.	Description
115392	Bearing Kit HiTorque M/MX für Front 20, 28/32 Loch
116689	HiTorque Cap Front 20, 15 x 100 mm
116672	HiTorque Cap Front 20, 20 x 110 mm
116764	MicroAdjust Cap Front, 15 x 100 mm
116771	MicroAdjust Cap Front, 20 x 110 mm

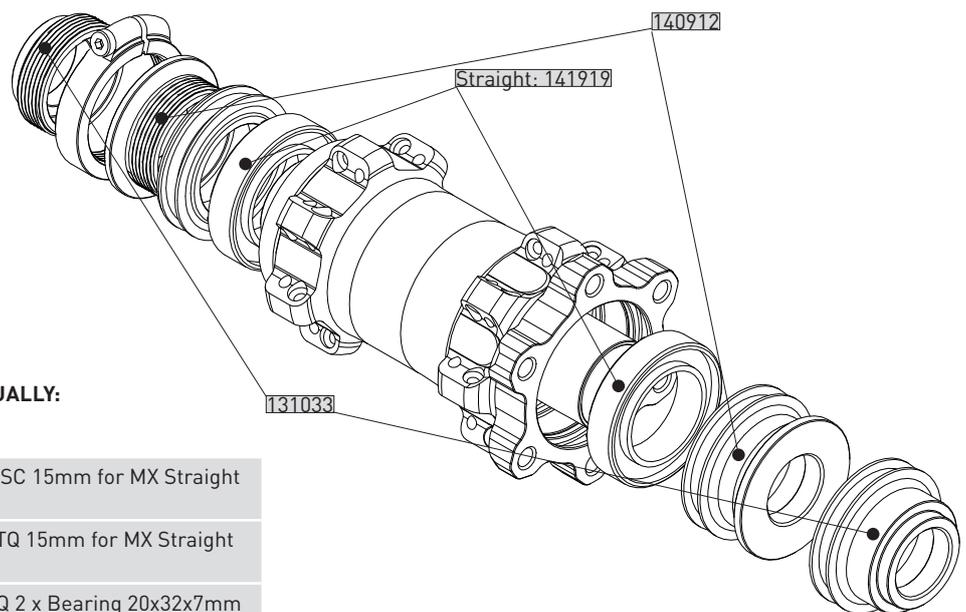
SYNTACE STRAIGHT MX REAR



PARTS THAT CAN BE ORDERED INDIVIDUALLY:

Art.-Nr.	Description
115378	Bearing Kit HiTorque M/MX
116078	HiTorque XX1, freewheel body für M/MX, SRAM 11-fach
127371	Freewheel body Spline with 3 steel face splines
141018	Syntace Crown gear ratchet Kit Straigh Rear Hub incl. Spring
142183	Duo sealing washer
XXXXX	MicroAdjust xxxxx
116702	Syntace HiTorque Cap Rear, 12 - pcs. Hub, right, 12x142/157

SYNTACE STRAIGHT MX FRONT



PARTS THAT CAN BE ORDERED INDIVIDUALLY:

Art.-Nr.	Description
131033	Syntace MicroAdjust Cap Kit SC 15mm for MX Straight 100/110
140912	Syntace MicroAdujst CapKit TQ 15mm for MX Straight 100/110
141919	Bearing Kit Straight Front, TQ 2 x Bearing 20x32x7mm